15 CENTS A COPY

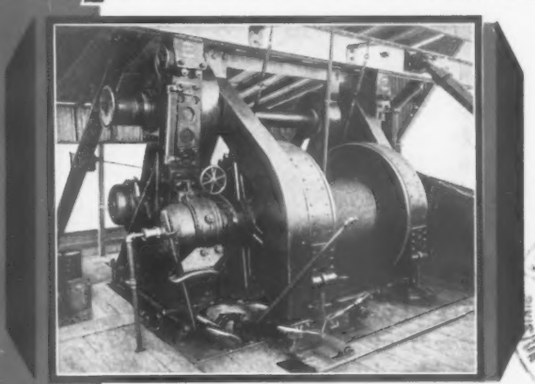
THE OIL WEEKLY

Devoted Exclusively To The Production and Transportation of Oil and Gas

Engineering News Statistics

IDECO Derricks
Never Successfully
Imitated

For Successful Deep Well Drilling



LIBRARY OF CONGRESS FEB 10 1931

IDECO Super Duty Draw Works

The all around dependability—speed, ease and economy of operation — reserve strength for emergencies obtained through the use of chrome nickel steel shafts, spooling drum, clutches and sprockets—water-cooled expansible brake drums and self-energizing brakes—interchangeable heavy duty, self-aligning roller bearings—simplicity of design—are only a few of the many outstanding features of the IDECO 4 speed, 3 shaft, Super Duty, 2 Post Draw-works.

Ask for Bulletin 114.

The International Derrick & Equipment Company
Columbus, Ohio

Marietta, O. Beaumont, Texas. Los Angeles, Calif.
Offices and Warehouses in All Active Oil Fields
732

November 21, 1930

ADVERTISERS INDEX, LAST PAGE EDITORIAL INDEX, PAGE 21

THREE HIGH-PRESSURE CHAMPIONS

HINDERLITER Patented Casing Support and Packing Heads

Old Man Safety

This two section type Casing Support and Packing Head with Casing Elevator lifting lugs and solid top section connected together with heavy bolts or clevis, is designed to hold and suspend long strings of casing and trap and retain fluid and gas between the casing suspended and larger size casing onto which the head is connected. Thus excessive pressures can be regulated through the side openings into which flow or lead lines are connected.

The well casing is held straight in the wedges from which it is suspended thus facilitating the easy starting in the process of pulling the well casing from the hole without the aid of special cut nipples.

This two section type Casing Support and Packing Head with Casing

Wild Well Subduer

Elevator link lifting lugs and threaded extension on the top section provides a means of connecting thereto, well casing and valves for effecting control of wells that blow out and become wild when excessive pressures are encountered in the process of drilling or when equipment fatigue limits are exceeded.

This two section type casing support and packing head with casing elevator lifting lugs and split top section can be instantly installed or removed for the introduction into the stationary string of set well casing, drill pipe, tubing or other well casing and emergency installations. Setting and suspension of well casing can be adjusted and controlled without the aid of nipples or without releasing weight tension of well

Kantspread Support

casing as it is being lowered. Ordinary operating crew can handle and set both split halves of top section in engaging position.

Packing mechanisms are positively accurate in operation
Maximum internal diameters

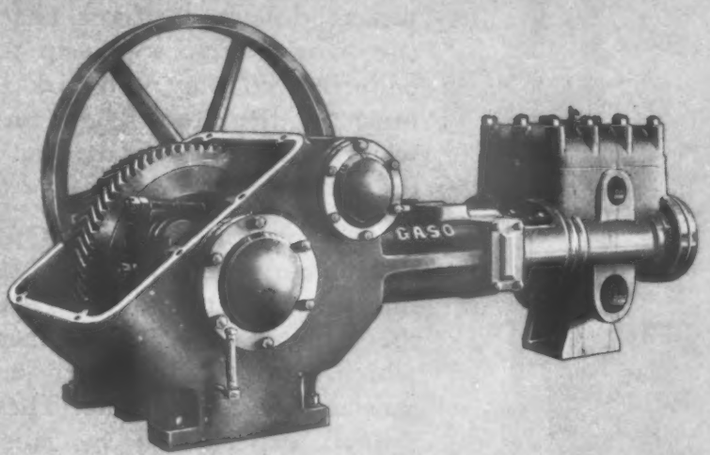
HONEST TOOLS

HINDERLITER

ROTARY STANDARD CABLE

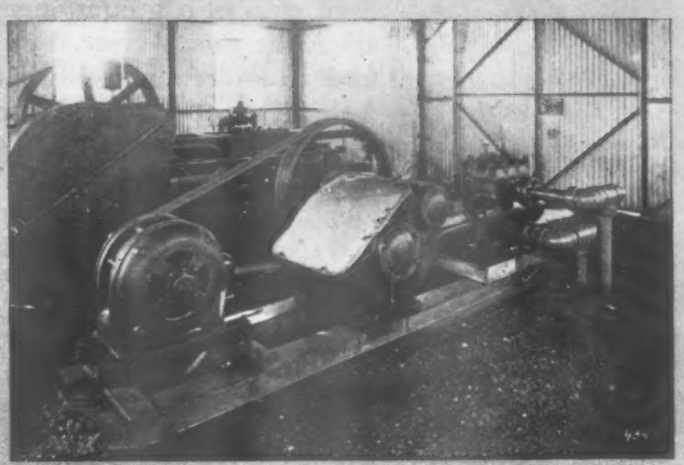
The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year 15 cents per copy. Entered as second-class mail matter December 23, 1 916, at the post office at Houston, Texas, under act of March 3, 187

Smooth and Efficient Transmission of Power



Like the steadily pulling legs of a team of horses, the Continuous Tooth Herringbone Gears in the Gaso Fig. 1508 Pump transmit power with extreme smoothness. *These gears are 98.9 to 99.4% efficient.* Other features which contribute to unique efficiency in this pump are: a constant flood of clean oil on all moving parts; and Timken Tapered Roller Main and Pinion Bearings.

Send your requirements for detailed data on Gaso Pumps for any purpose



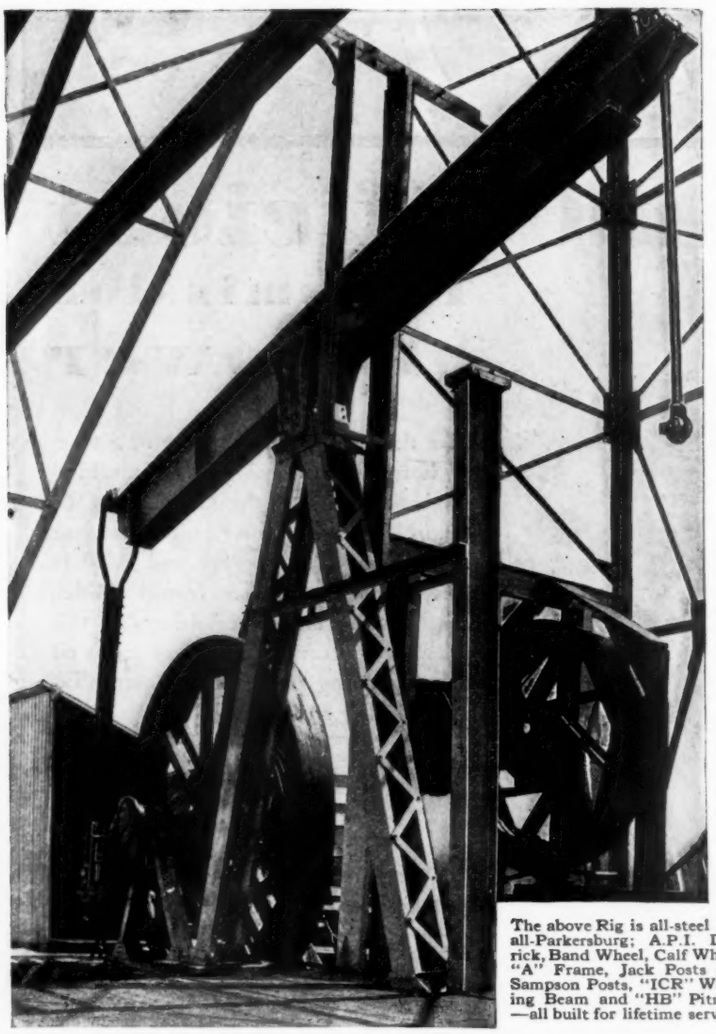
GASO PUMP & BURNER MFG. CO.
Tulsa, Oklahoma
Dallas, Texas New York, N. Y.

Left—A Gaso Fig. 1508 Enclosed Power Pump with V-rope drive from electric motor. This pump is also popular in a compactly mounted skidded unit with V-rope drive from Buda 50 H.P. Gas Engine. Or it can be arranged for belt drive, direct connected to engine through flexible coupling, or for motor drive through silent chain or reduction gears.

Interchangeable Liner Fluid End gives capacities varying from 63 bbls. per hour at 800 lbs. pressure to 250 bbls. per hour at 250 lbs. pressure.

GASO PUMPS
for every oil industry need

Economize when *with* Parkersburg



The above Rig is all-steel and all-Parkersburg; A.P.I. Derrick, Band Wheel, Calf Wheel, "A" Frame, Jack Posts and Sampson Posts, "ICR" Walking Beam and "HB" Pitman —all built for lifetime service.

WHETHER it's to drill or pump, when it's time to standardize it's time to give an extra thought to economy. That's the time to consider "yearage" of service as well as "dollarage" of cost. That's the proper time to equip for enduring economy with Parkersburg Quality Steel Rig Fronts which are "good for the life of the well and more."

That's the time to call in the Parkersburg man near you. Let him show you the advantages of this modern all-steel equipment which cuts costs by better performance and longer life. These trained, experienced specialists in matters of Rig Equipment are always at your service. You will find them ready, willing and well informed on conditions in your field. Let one of them point out the savings of Parkersburg Quality. You can depend on the extra strength, advanced design and enduring service of this equipment which is "Engineered for the Job."

Quality proved by performance is vital assurance of economy. It brings confidence and satisfaction in every field.

PARKERSBURG PRODUCTS

Rig Irons

Steel Derricks and Crown Blocks

Portable Drilling Machines (Wood and Combination-Steel)

Chain-Driven Sand Reels and Bailing Reels

Steel Wheels— Bull, Calf and Band

All-Steel Standard Rigs

Bolted Steel and Aluminum Tanks

Miscellaneous— Drilling Equipment Steel Walking Beams and Pitmans

We Subscribe to A.P.I. Standards

THE PARKERSBURG RIG AND REEL COMPANY

you Standardize Steel Rig Fronts

Proven In Practical Use

PARKERSBURG Products are built to the requirements of the field. Practical Oil Men, Field Engineers of wide experience and Expert Structural Designers have combined their talents in perfecting this modern Steel Equipment. "Built by Parkersburg" adds the final assurance of Quality, Accuracy of Construction and Dependable Strength to serve with utmost Satisfaction and Economy.

These facts are established beyond question. Parkersburg Rig Equipment has been tried and proven in practical use for more than thirty-three years in Oil Fields throughout the World. It has always brought users definite economies in better performance and longer life.

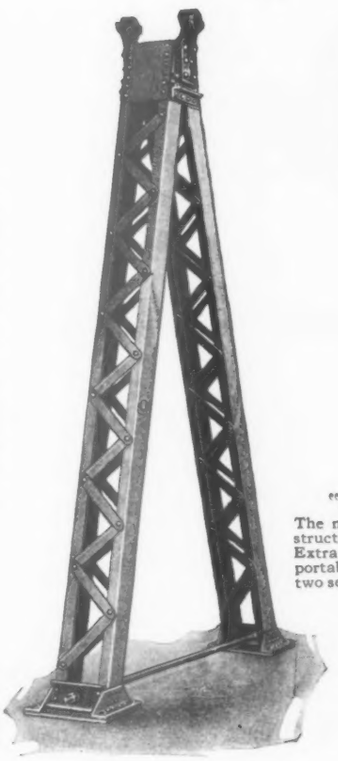
Quality and Service

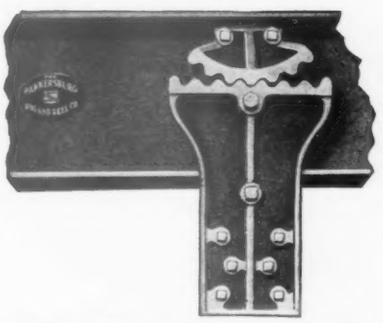
QUALITY always pays. There is no substitute. In Oil-Field Equipment by Parkersburg, Quality is linked with Service—Service from the Product in use, Service from the Manufacturer, and cheerful, prompt and helpful Service from Parkersburg Representatives in every field. This threefold follow-through to satisfaction is the pledge and practice of the Parkersburg Organization.

Parkersburg Quality and Service are maintained for *you*. For complete Production Rigs, from Derricks to Tanks, call the nearest Parkersburg Representative.

A card or phone call will bring you descriptive literature on the advanced products illustrated.

THE PARKERSBURG RIG AND REEL CO.
PARKERSBURG WEST VIRGINIA
TRADE MARK REGISTERED





Type "ICR" Rocker Walking Beam

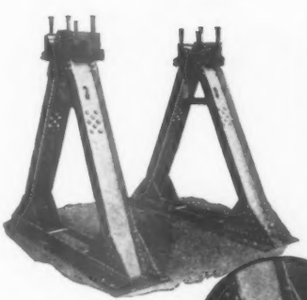
The "Center Rocker" principle gives a longer, straighter, more uniform stroke and prevents side sway or weaving. An added mechanical advantage saves power by reducing Pitman angularity. The improved stroke needs no special straight-line hanger device.

"A" Frame Steel Sampson Posts

The modern, economical installation. Made of structural steel shapes riveted into a rigid assembly. Extra strength and permanence are combined with portability. Posts are fabricated for shipment in two sections, easily assembled on location.

"HB" Pitman

Note sturdy construction—a 6-inch, 25-pound, Steel H-Beam Stem with extra riveted and welded reinforcement at bearing end. Patented self-aligning, self-lubricating bearing, operated by the simple boomer lever on the side, saves time and fingers.



"A" Frame Jack Posts

Made of structural steel with bases both riveted and welded to prevent looseness or play and assure freedom from vibration. Made in three heights for every rig. Ask for Bulletin.

Welded

Close-up view of simple "boomer" type lever on "HB" Pitman which lifts bearing cap wide open for removal from wrist pin. Off and on in thirty-nine seconds easily. The patented, self-aligning bearing banishes wrist-pin troubles for all time.

Patented.

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Branches In All Active Fields

137-A

PROFITABLE MACHINERY

"REID Band Wheel Power" spells "Profitable Machinery" to the producer whose leases warrant central plant pumping.

Why? Because back of these big band wheels is the soundness of Reid

Band Wheel Power with 20-ft. diameter wheel and 20-inch throw eccentrics.

design which, ever since it first proved feasible the multiple pumping of wells, has enabled Reid powers to carry their loads so efficiently that they have quietly, but surely, won the hearty approval of their owners and operators to whom efficiency means profit.

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

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D+B SIMPLEX PRODUCTS

DEPENDABLE +BETTER

D+B SIMPLEX SAFETY HOOK

D+B SIMPLEX STUFFING BOX

Lubricating bowl is located at top to prevent burning of packing while oil is coming up, or between heads of oil. Assures perfect lubrication. Easily adjustable without wrench, by means of two attached handles. Simply constructed of few parts. Nothing to get out of order. Made to fit any size tubing.

D+B SIMPLEX STUFFING BOX

D+B SIMPLEX SAFETY HOOK

Hook is locked by downward pressure or weight of elevator and rod string. Once closed, safety lock cannot be released except by deliberate pressure of latch trip in the hand grip. Withstands enormous strains. Swings into elevator bail from any angle. Operates with extreme ease.

Send for Bulletin 6DB for full information concerning these and other Dependable and Better D+B products.

EMSCO DERRICK & EQUIPMENT CO.

6701-7101 So. Alameda St., Los Angeles, California

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All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Coatinental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE

LINDE PROCESS SERVICE Speeds Pipe Line Welding

. . . . . and offers invaluable assistance in organizing your welding operations for maximum speed and economy.

Step by step, from the mobilization, training, and testing of welders and the careful selection of equipment and supplies, it goes to the final testing of the line. Cooperating with your own engineers, it makes available to users of Linde Oxygen the facilities developed by years of experience on thousands of miles of pipe line.

It assures absolute tightness of the line with tough, ductile welds as strong and as permanent as the pipe itself.

THE LINDE AIR PRODUCTS COMPANY, THE PREST-O-LITE COMPANY, INC., OXWELD ACETYLENE COMPANY, UNION CARBIDE SALES COMPANY,
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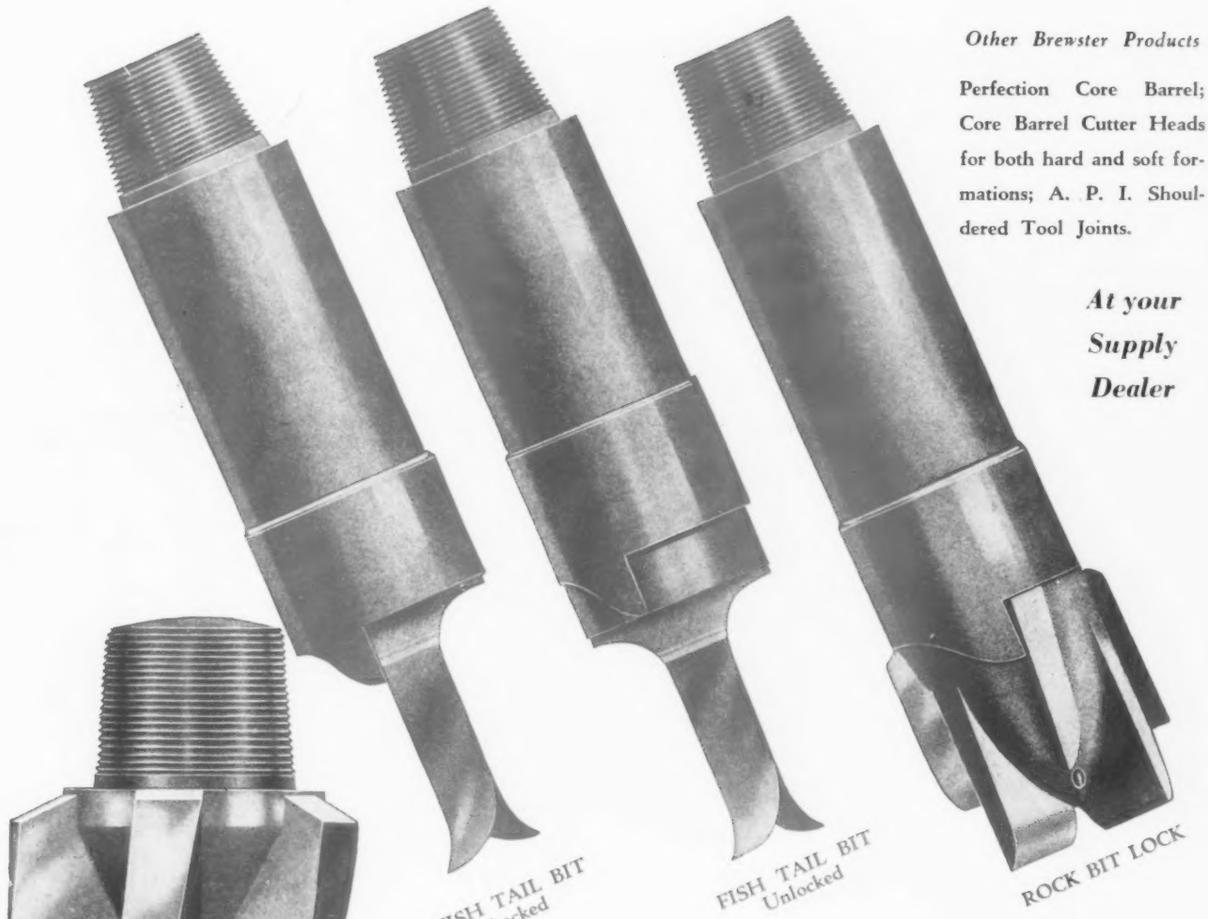
General Offices . . . . . New York UCC **Sales Offices . . . In the Principal Cities**

65 Linde plants . . . 48 Prest-O-Lite plants . . . 174 Oxygen Warehouse stocks . . . 156 Acetylene Warehouse stocks
42 Apparatus Warehouse stocks . . . 245 Union Carbide Warehouse stocks

38

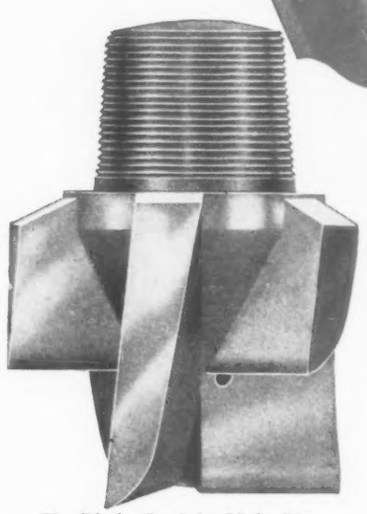
A New Safety Drill Collar



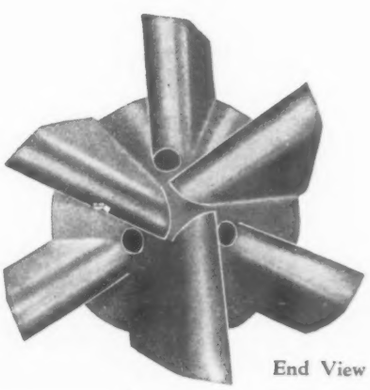
Other Brewster Products

Perfection Core Barrel; Core Barrel Cutter Heads for both hard and soft formations; A. P. I. Shouldered Tool Joints.

At your Supply Dealer



Six Blade Straight Hole Bit



End View

Positive . . . . automatic . . . . prevents a bit from backing off going into the hole. This Drill Collar has a positive bit lock for any style bit. No more grief from "he failed to make up the bit". Made in all sizes. A.P.I.

Manufactured by

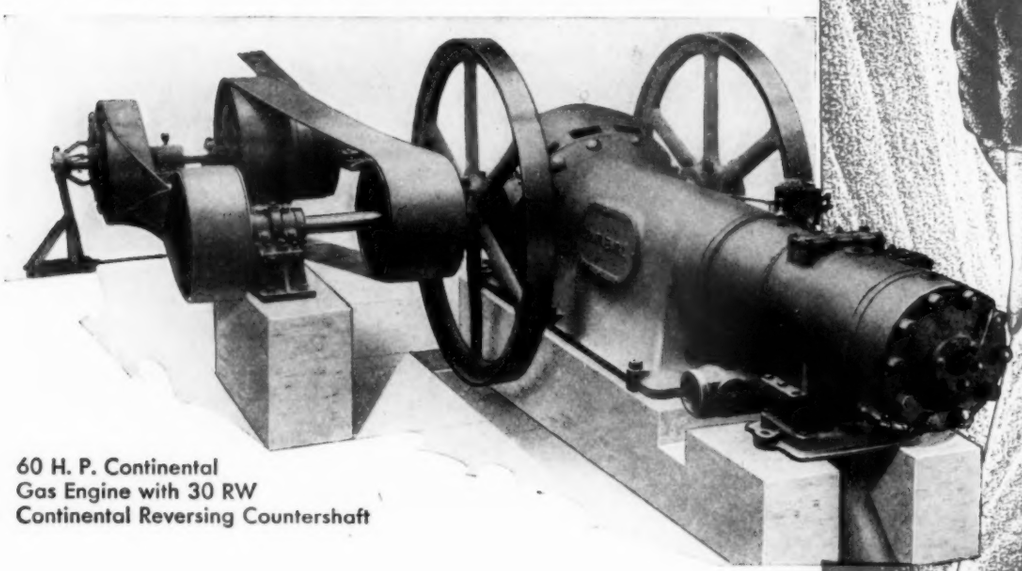
The Brewster COMPANY~INC.
Shreveport, Louisiana

WELL BALANCED

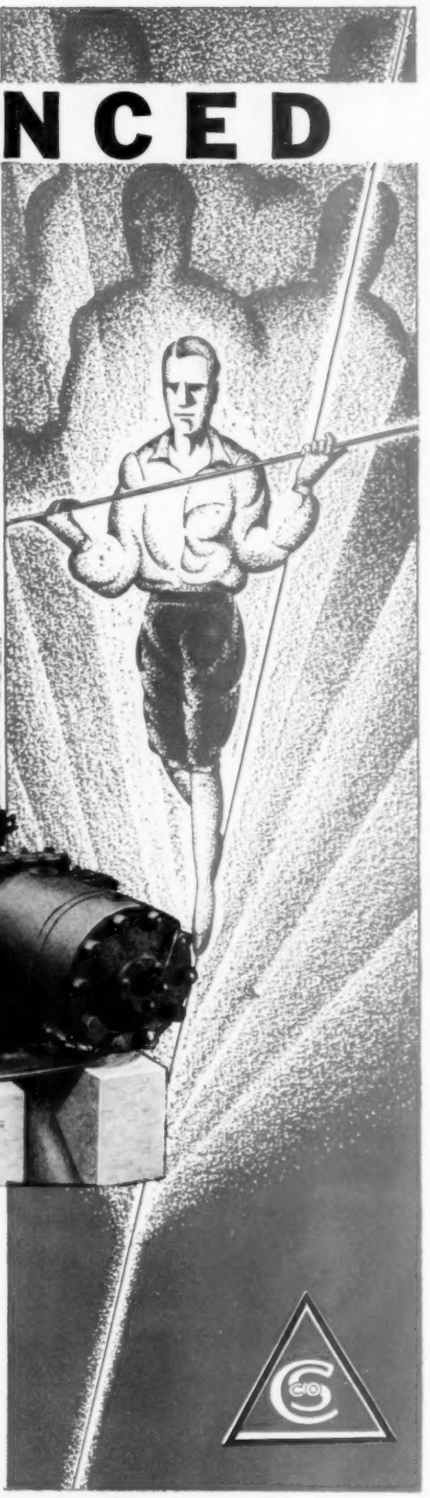
THE CONTINENTAL SUPPLY COMPANY

TWO CYCLE GAS ENGINE

BUILT BY FAIRBANKS-MORSE



60 H. P. Continental
Gas Engine with 30 RW
Continental Reversing Countershaft



"If Continental Sells It....There Is No Better"

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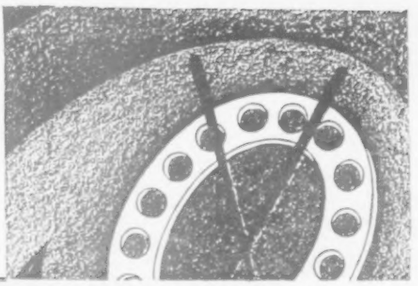
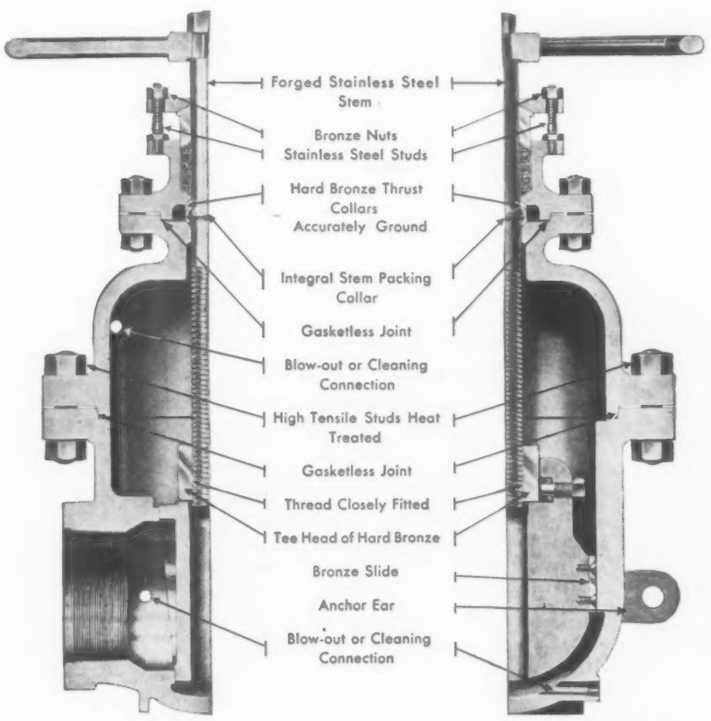
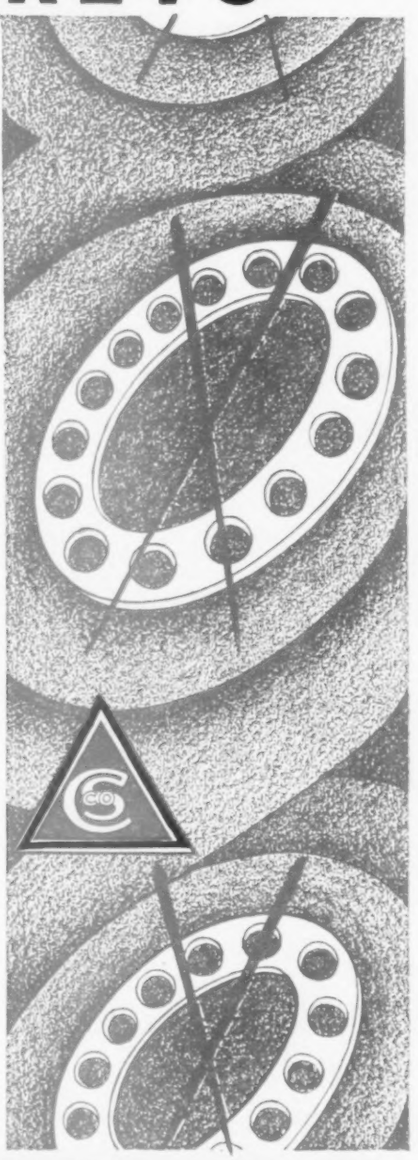
THE NEW WESTCOTT DRILLING GATE VALVE



HAS NO GASKETS



Cross Vertical Section — Longitudinal Section



Leaks, blow-outs, replacements and the inconvenience caused by valve gaskets can't happen in this new Westcott Valve. Tapered, ground joints give leakless, trouble-free service and eliminate the gaskets. The full, free floating (until seated) solid wedge with bronze slides, operates with a minimum of friction along a machined steel guide in the body.

"If Continental Sells It....There Is No Better" 912J

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Why Use Hammered Piston Rings

A PISTON RING must have uniform tension—which means equal outward pressure uniformly exerted against the cylinder wall. Furthermore, the tension must be maintained during the life of the ring and under the most severe service.

Hammered tension is the answer. Hammering the inner surface of the ring by the special American Hammered variable spacing process produces uniform and permanent tension. Permanent because the inner surface of the ring is not affected by wear, the tension being maintained during the life of the ring.

Engine builders and operators have demonstrated through years of experience that the hammered principle is more than a scientific theory. It is a proven fact. That is why a large and steadily increasing number of America's leading engine builders use millions of American Hammered Piston Rings year after year.

CRONIN INNER SEAL RING Patent No. 1,699,135

FOR more than ten years, multiple-piece rings have also been manufactured by the American Hammered process and have been supplied to leading engine builders.

The Cronin Inner Seal Ring pictured, effectively seals the joint, the groove, and the cylinder and also overcomes excessive groove wear. It can be used in all grooves in the piston and is indispensable in out of round and tapered cylinders.

Endorsed and Used as Factory Equipment by:

Ajax Iron Works - - Corry, Pa.
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Dow Pump & Engine Co. Oakland, Cal.
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McIntosh & Seymour Corp., Auburn, N. Y.
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National Supply Co., Toledo, Ohio
Pennsylvania Pump & Compressor Co. - - - Easton, Pa.
Power Mfg. Co. - Marion, Ohio
Jos. Reid Gas Eng. Co., Oil City, Pa.
Sullivan Machinery Co., Michigan City, Ind.
Titusville Iron Works, Titusville, Pa.
Wilson Snyder Mfg. Co., Pittsburgh, Pa.
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American Hammered Piston Rings

THE AMERICAN HAMMERED PISTON RING COMPANY ··· BALTIMORE, MARYLAND, U. S. A.

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TITAN

and TUBE TITAN METAL

... truly *Titanic!*

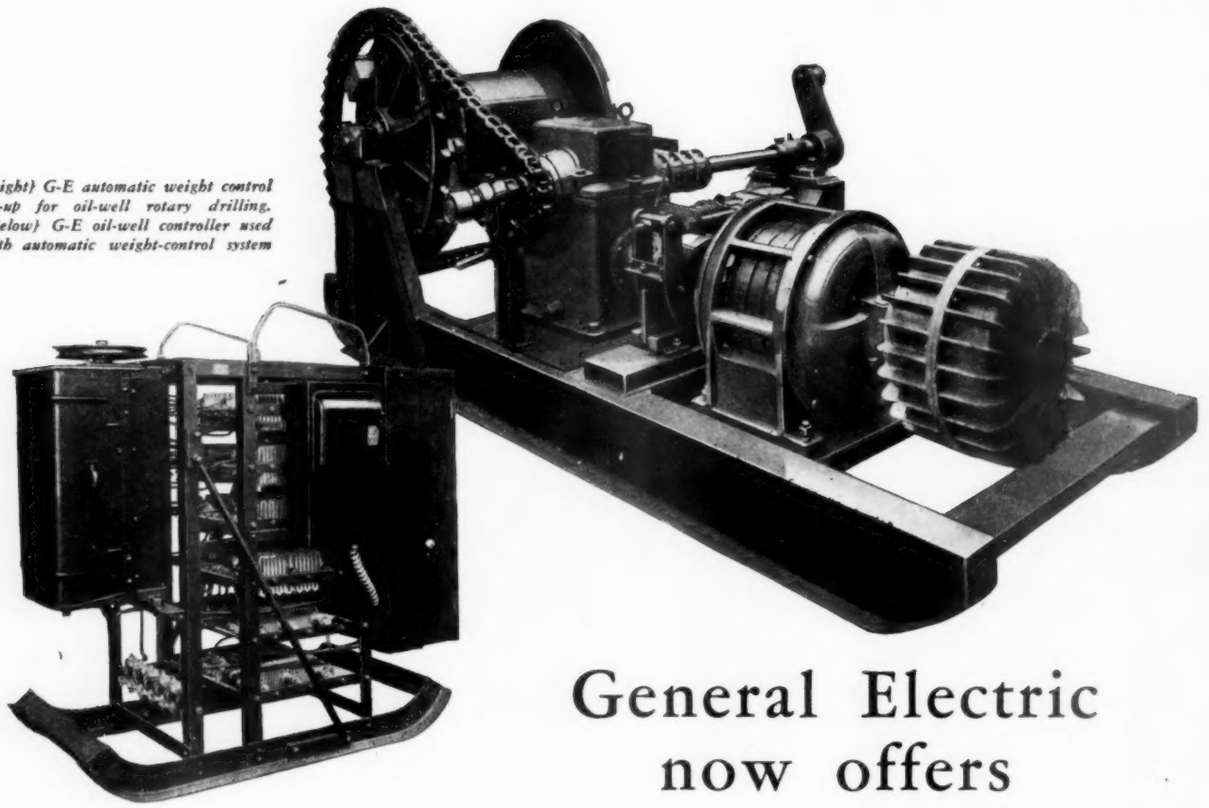
The manufacture of Titan Metal is fully covered by patents. Infringements will be prosecuted.

.... in its power to resist the tremendous abrasive force of drilling and coring in hard formations, and to increase the cutting capacity of ordinary bits. Send for actual performance records which reveal some interesting facts on economical drilling.

MILLS ALLOYS, INC.

3202 So. San Pedro Street

Los Angeles, California, U.S.A.



(Right) G-E automatic weight control set-up for oil-well rotary drilling. (Below) G-E oil-well controller used with automatic weight-control system

General Electric now offers POSITIVE WEIGHT CONTROL AUTOMATIC FEED

THE new G-E automatic weight control for rotary drilling, backed by the reputation of General Electric for service and dependability, has these unprecedented features:

1. Feed is from dead end of line; calf-wheel and entire "standard end" are replaced by a two-speed, motor-driven hoist unit.

2. Feeding and retrieving action is automatically responsive to weight carried on bit and holds constant within close limits any weight set by driller, observed as usual on weight indicator.

3. By simple electric control, bit may be instantly raised off bottom at will of operator, or equipment changed to full hand control for coming out of hole in case of emergencies, thus serving as a reliable, "live" standby for the drawworks.

4. The unit serves as an auxiliary hoist for rigging-up, saving enough time and effort on this work alone to pay for itself in a short time.

5. A crank is provided for making up joints when setting casing, drum being unclutched and locked.

This equipment eliminates the uncertain human element from drilling, and provides conditions now generally recognized by experts in the industry as essential for drilling straight holes. Any G-E office will gladly supply details.

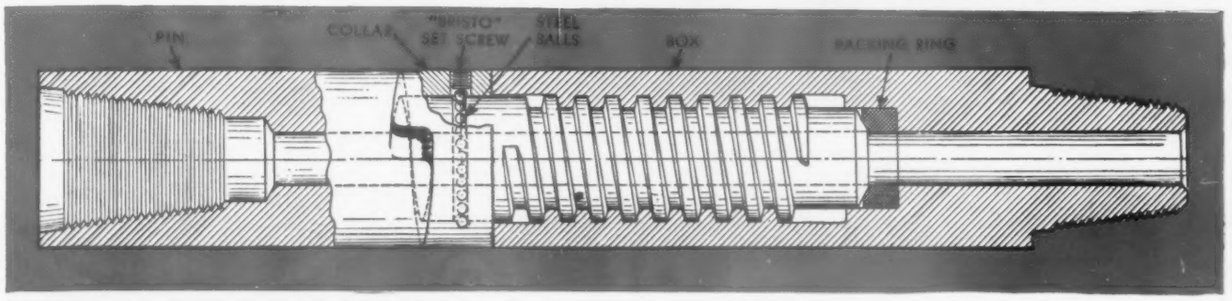
JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

200-395

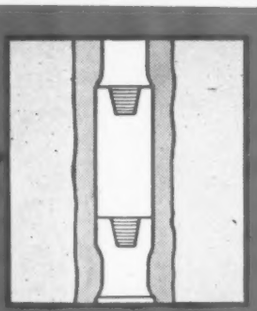
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

3 FEATURES

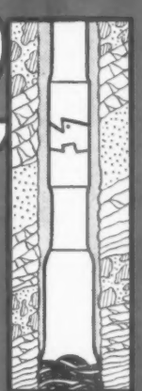


1



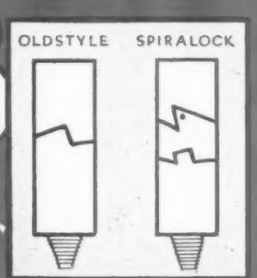
Locks into a rigid joint BEFORE it is run into the hole and will not become loose, thus assuring safety against losing tools.

2



The 3 to 1 release safety factor enables the entire string to be safely revolved in direction opposite to normal without disengaging unless the member below is hopelessly stuck.

3



The patented construction and the use of the best alloy steel assure maximum strength.

tell the superiority story of the

BAASH-ROSS SPIRALOCK SAFETY JOINT

SPIRALOCK Safety Joint is one of the year's outstanding developments in drilling equipment. Its three outstanding features give it unquestioned advantages over all other types.

In operation, the SPIRALOCK Safety Joint provides positive release under all drilling conditions. With its 3 to 1 release safety factor, the danger of freezing long strings of drill pipe is positively eliminated. Only one-third of the pressure is required to break this safety joint that it takes to break the tool joint. The rubber packing ring prevents circulating fluid from working into the threads. Acid bottle test readings are accurate as the inside diameter of the joint is identical with the drill collar, permitting unobstructed passage of the acid bottle to the bit.

Send for Bulletin 83...free...for complete and detailed description.

BAASH-ROSS TOOL COMPANY

5512 BOYLE AVENUE, LOS ANGELES, CALIFORNIA

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J&L PIPE B-R

BAASH-ROSS TOOL COMPANY
Box 1297 Arcade Station, Los Angeles, California

Please send me ... no charge or obligation, Bulletin 83 describing the Baash-Ross SPIRALOCK Safety Joint.

*Name*_____
*Company*_____
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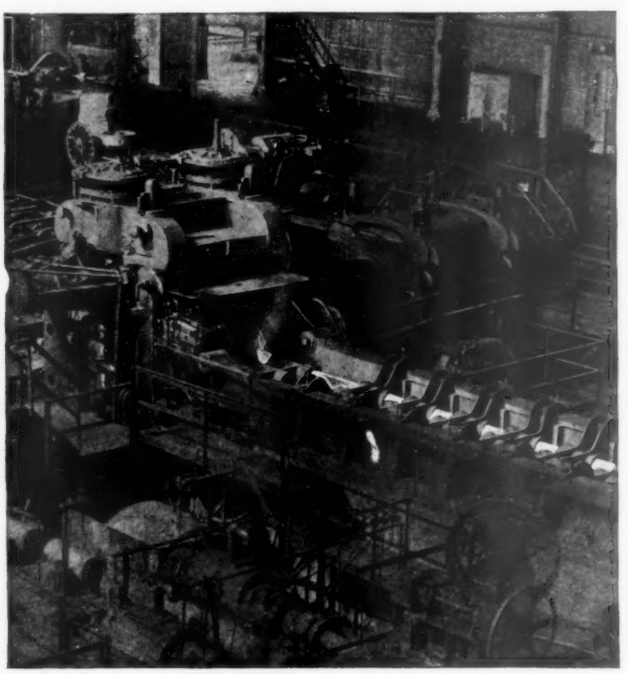
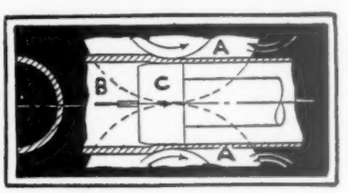
J & L SEAMLESS

Produced under Finest Control in the Heaviest Plug Mills in Existence

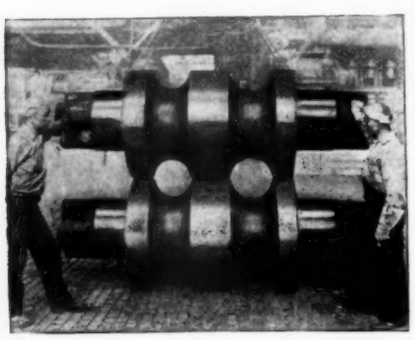


The picture shows one of the powerful J & L plug mills, the largest and heaviest in existence.

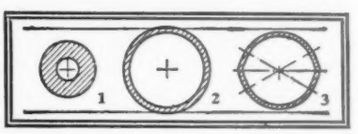
FACILITIES of J & L for making Seamless Casing, Tubing and Drill Pipe of highest quality are unsurpassed. For instance, J & L employs the heaviest plug mills in existence for producing all sizes of seamless from 2⅜" O.D. to 13⅜" O.D. By using this extra heavy equipment J & L has reduced detrimental vibration to a minimum, and has obtained as nearly perfect control as possible over an operation highly important to making seamless of superior quality. In the plug mill a denser steel structure and the correct weight per foot are obtained as the tube is rolled to approximately the exact wall thickness. The more thoroughly the plug mill does its work the greater will be the endurance and dependability of the finished pipe.



Sketch of plug mill operation in seamless manufacture. "A" are the rolls, "B" is the tube, and "C" is the plug over which the tube is rolled.



The picture at the left indicates the giant size of the rolls employed in the J & L Seamless Pipe plug mills.



Development of cross-section of J & L Seamless Pipe: 1. After first piercing; 2. After second piercing; 3. After plug mill rolling.

JONES & LAUGHLIN STEEL CORPORATION

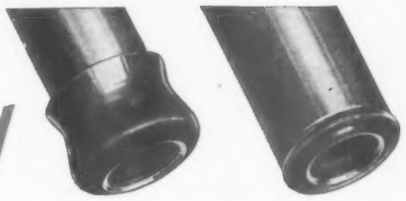
AMERICAN IRON AND STEEL WORKS

J&L STEEL

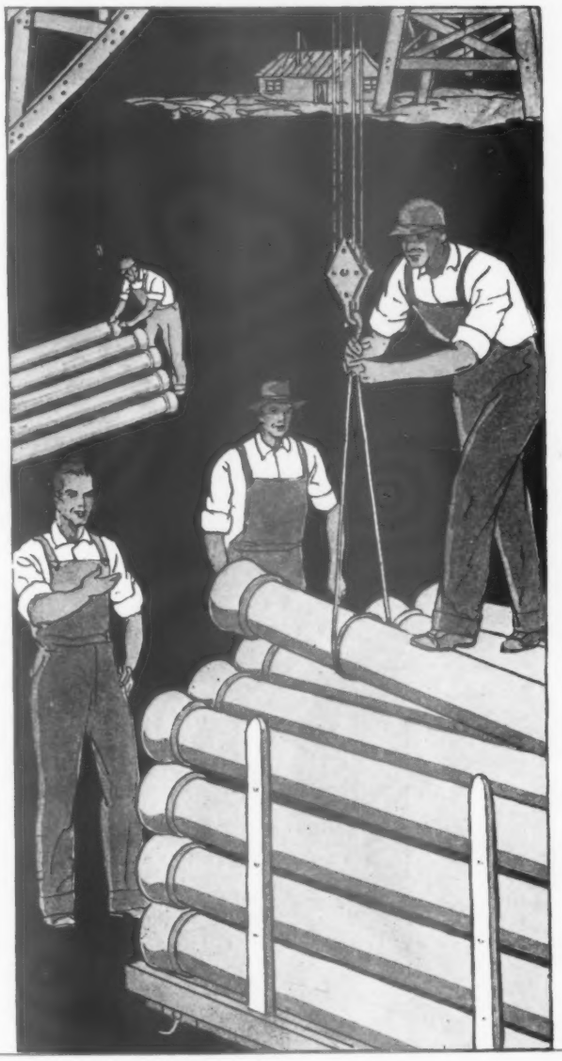
Manufacturers of Seamless and Welded Casing, Tubing, Drill Pipe and Line Pipe, and Welded Steam, Gas and Water Pipe in both Black and Galvanized.

Also makers of Bars, Shapes and Plates, Reinforcing Bars, Cold Finished Steel, Junior Beams, Steel Piling, Fabricated Structural Work, Steel Barges, Wire Products and Tin Mill Products.

JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA



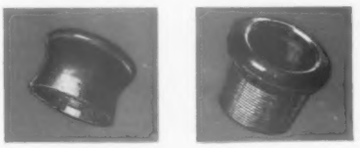
"Lots easier to handle, Joe, with the thread protectors!"



WAREHOUSEMEN, truckdrivers and loading crews can manhandle Colona Protected Pipe—drop the ends on concrete floor—drag it in the mud or dirt—subject it to every kind of handling abuse in the interest of speed and efficiency . . . yet when Colona Protected Pipe arrives on the job the threads of every single length, be it a truckload or a carload, are ready for immediate use.

Simply unscrew the Colona Nipple from the coupling end or the bell-shaped cap from the threaded pipe end and there it is . . . as clean and perfect as the day it passed the eagle eye of the inspectors in the pipe mill. There is only one Colona Pipe Thread Protector—the only one that gives 100 percent protection to the ends as well as the threads. It always pays to specify "Colona" protected pipe in your order requisitions.

PITTSBURGH SCREW & BOLT CORP.
Colona Division
PITTSBURGH, PENNSYLVANIA



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Definite RESULTS EVIDENCED•• BY PAST PERFORMANCE

THE LAYNE MILLED GROOVE SCREEN

Large and important companies abroad and in this country will testify to the fact that the *Layne Milled Groove Screen* increases production from 33-1/3% to 100%. They will also testify that *Milled Groove* does not clog with mud and sand, prevents sand cutting, is a tonic to low pressure wells, and has the remarkable ability to safely stand 8,000 feet of drill pipe.

Tests by the Pittsburgh Testing Laboratory revealed the true great strength of oil industry's latest, greatest and most important invention, the *Layne Milled Groove Screen.*

Install the "greater production" *Layne Milled Groove Screen* instead of wishing you had.

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The Layne & Bowler Co.

Houston LAYNE **Texas**

Install Milled Groove Instead of Wishing You Had

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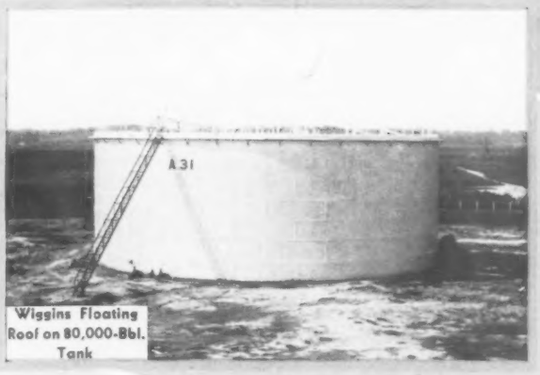
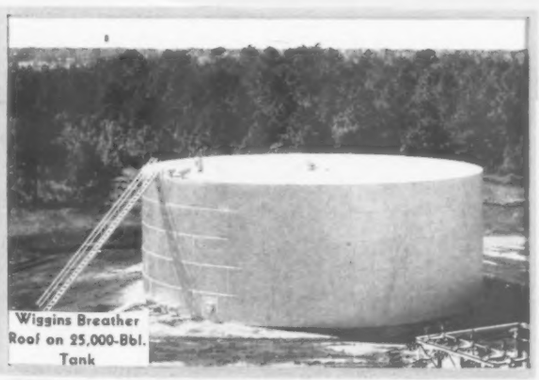
A QUARTER CENTURY OF EXPERIENCE AND DEVELOPMENT

The effectiveness of WIGGINS ROOFS *in stopping fire and evaportion losses is demonstrated by*



Wiggins Floating Roof on 80,000-Bbl. Tank

Wiggins Pontoon Roof on 25,000-Bbl. Tank


Wiggins Breather Roof on 25,000-Bbl. Tank

Group of A. P. I. Tanks equipped with Wiggins Roofs

1

LENGTH OF SERVICE. For seven years the number of Wiggins Roofs installed each year has steadily increased.

2

EXTENT OF USE. In 26 countries, Wiggins Roofs are protecting oil tanks from fire and evaporation under all conditions.

3

PERFORMANCE. Government and private tests, extensive in scope, and year-by-year records have proved the effectiveness of Wiggins Roofs.

4

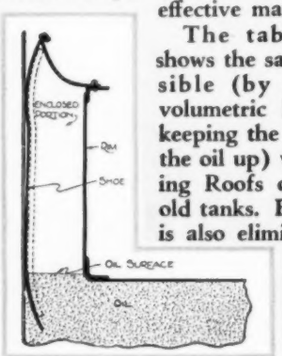
LOW MAINTENANCE. The repairs on all Wiggins Roofs in service in 1929 cost less than ¼% on the investment.

How leading oil companies *STOP evaporation and fire losses*

For over seven years Wiggins Roofs have been proving how easily and effectively evaporation and fire can be stopped. They are in no sense an experiment. They have seen actual service under all kinds of conditions.

The Wiggins Floating Roof

There are three types of Wiggins Roofs. The Floating Roof stops filling and emptying evaporation losses—by riding on the surface of the oil and keeping air from coming in contact with the oil. The seal (see sketch) closes the space at the tank shell in an effective manner.



The table below shows the savings possible (by stopping volumetric losses and keeping the gravity of the oil up) with Floating Roofs on new or old tanks. Fire hazard is also eliminated and corrosion caused by sour oil decreased.

The Wiggins Pontoon Roof

The Wiggins Pontoon Roof operates much the same as a Wiggins Floating Roof except that it has a ring of pontoons around its edge which hold the deck a short distance above the oil surface. This provides an air space between the deck and the oil which serves to decrease the temperature of the oil and reduce the tendency of very volatile oils to boil.

Annual Savings with Wiggins Floating Roofs

WORKING TANKS

Barrels Pumped per Day (or stored)	Kind of Oil	Loss from Gas-Tight Tanks (Bbls.)	Loss with Wiggins Floating Roofs (Bbls.)	Difference in Bbls.
5,000	Gasoline	3,250-4,855	155	3,100-4,700
10,000	Gasoline	6,500-9,710	300	6,200-9,410
5,000	Crude	1,810-2,310	110	1,700-2,200
10,000	Crude	3,000-4,500	150	2,850-4,350
STANDING STORAGE TANKS				
55,000	Gasoline	925-1,125	*125-200	800- 925
55,000	Crude	470- 570	70- 90	400- 480

*Average motor fuel used in the U. S. (54° -60° A.P.I.) and stored in a climate equivalent to New Jersey.

The Wiggins Breather Roof

Breathing causes the loss of valuable vapor from standing storage tanks equipped with ordinary cone roofs. Vapor is forced out through vents and air drawn in to carry away more vapor.

The Wiggins Breather Roof rests on a practically flat roof framing and is fastened down only at the top shell angle. By flexing up and down with the thermal expansion it takes care of all breathing. No vapor is vented from the tank.

Low pitch cone roofs in good condition can be converted into Breather Roofs at small cost. When requesting quotations on conversion, give dimensions of tank, pitch of roof, and all information possible as to the condition of the structure.

Savings Possible with Breather Roofs When Tank Is Not Full

While the Breather Roof stops all evaporation loss on full standing storage tanks it gives a considerable margin of evaporation savings over the ordinary vented steel roof on working tanks or storage tanks that are not full. The mathematical comparison below explains the reason why.

Annual Savings with Breather Roof over Cone Roof

CONDITIONS

1. Each tank is 117 ft. x 41 ft. 10 in. = 80,000 barrels
2. Daily expansion air-vapor mix = 10% of air-vapor volume
3. 10 cu. ft. gasoline vapor = 1 gal. gasoline
4. 110 cu. ft. air-vapor mix = 1 gal. liquid gasoline
5. Value of gasoline = 10 cents per gallon
6. Slope of cone roof = ½ in. : 12 in.

WIGGINS BREATHER ROOF	cu. ft.	CONE ROOF TANK	cu. ft.
10% × 219,800 . . =	21,980	10% × 233,700 . . =	23,370
Saved by roof . . . =	10,750	Saved by roof . . . . =	0
Daily loss . . . . . =	11,230	Daily loss . . . . . =	23,370

AVERAGE DAILY SAVING AIR-VAPOR MIX

Air vapor loss, cone roof . . . . . = 23,370 cu. ft.
Air vapor loss, Breather Roof . . . . . = 11,230 cu. ft.

Saved by Breather Roof . . . . . = 12,140 cu. ft.

AVERAGE DAILY SAVING OF GASOLINE

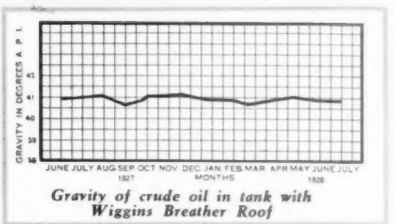
12,140 ÷ 110 = 110.3 gallons

ANNUAL SAVING IN DOLLARS

365 × 110.3 = 40,259 gallons
at 10c a gal. = $4,025.90

Tests on Wiggins Roofs

Extensive tests have been run on Wiggins Floating Roofs. Several oil companies conducted their own fire and evaporation tests and it is a significant fact that these are the companies which are using the most roofs now.



Gravity of crude oil in tank with Wiggins Breather Roof

On Wiggins Breather Roof, the most thorough test is of the U. S. Bureau of Mines, the report of which is incorporated in our booklet "Stopping Evaporation with the Wiggins Breather Roof." The accompanying chart shows some of the results of this test.

Fire and Corrosion

Without additional equipment, or operating expense, Wiggins Roofs eliminate fire hazard. No tank protected with a Wiggins Roof has ever been destroyed by fire. Wiggins Breather Roofs are also used by companies handling sour crude to minimize corrosion. In this case, the Breather Roof is filled so that the oil is in contact with the roof plates, leaving no space for corrosive vapors. With the Wiggins Floating Roof the deck is in contact with the oil at all times with no vapor space.

Other Products

We also make field erected tanks; Hortonspheres and Hortonspheroids for pressure storage; Riveted-up Tanks; Elevated Tanks; Standpipes; and all kinds of refinery platework, such as Agitators, Absorbers, Bubble Towers, Crude Stills, etc.

We are glad to furnish full information and quotations on any work you may have in mind. Please address our nearest office.

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New York.....Hudson Terminal Bldg.	Detroit.....Lafayette Bldg.	San Francisco .....Rialto Bldg.
Philadelphia.....Jefferson Bldg.	Birmingham.....Fiftieth St., N.	Seattle.....L. C. Smith Bldg.
Boston.....Consolidated Gas Bldg.	Dallas.....Magnolia Bldg.	Havana, Cuba.....Apartado 2507

Plant facilities at Chicago, Illinois; Birmingham, Alabama; Greenville, Pennsylvania; Bridgeburg, Ontario.

The Straight Line to lower production costs

DURING these hectic days of curtailment operators are endeavoring to reduce production costs as a means of increasing profits. We are doing our bit to help by building fast, safe and economical production tools... tools that are better in every respect. Those illustrated and listed below are time-proved veterans of service accepted as *standard* wherever oil *is produced.*

BJ PRODUCTION TOOLS

Tongs . . . Elevators (Rod and Tubing)...Tubing Catchers... Tubing Stops...Tubing Bleeders...Hooks (Rod and Tubing)

BJ SNAPON TUBING TONGS

Can be snapped on the tubing with one hand, and locks automatically. Carefully tempered dies, machined from special steel, prevent slipping even on the hardest seamless steel tubing. Simple and sturdy in construction; speedy and safe in service. Write for Bulletin No. 113.

BJ SIDE-DOOR TUBING ELEVATOR

(Wilson Type)

Speed and safety are built-in features of this famous tubing elevator. It is simple in design and embodies many exclusive, patented features. The patented spring latch is universally recognized as the safest, strongest locking device ever developed. Write for Bulletin No. 110.

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SHUT OFF BOTTOM WATER
THE SAME AS YOU SHUT OUT THE RAIN

Fully patentet

WITH THE GUIBERSON SPIRAL BOTTOM WATER PLUG

When rain comes, you close any open window and forget about it. When you encounter bottom water in your well, put in a Guiberson Spiral Bottom Water Plug and enjoy the same freedom from care. The latter is as positive as the former, even though the plug is sometimes subjected to tremendous pressures, greater than any gales that ever blow against your window.

No pressure from below can budge the Guiberson Bottom Water Plug after it is collapsed into place. Its steel spirals, in their collapsed position, bite into the walls of the well and make the Guiberson Plug exactly like a big screw, such as a carpenter uses when he wants to fasten something more firmly than he could with a nail. Between the spirals, oakum packing, which will outlast the well, does not allow a drop of water to escape upward into the well. The Guiberson Spiral Bottom Water Plug, once set, will not come out until it has been drilled out.

"Better Be Safe Than Sorry"
THE GUIBERSON CORP.
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621 Kennedy Bldg. Tulsa | 321 S. Osage St. Ponca City | 506 Trust Bldg. Newark, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

A Gulf Publishing Company Publication

The OIL WEEKLY

Member Audit Bureau of Circulations

VOLUME 59, NO. 10

NOVEMBER 21, 1930

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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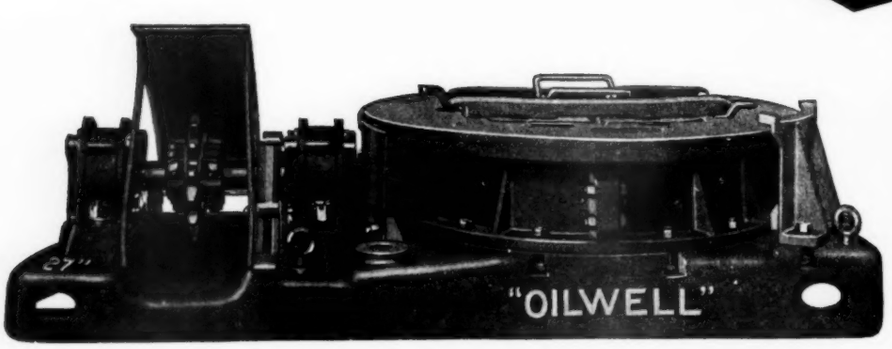
It is built for heavy duty, easily handling 6″ drill pipe in the deepest territories.

Convenience of operation, long wearing quality and absolute reliability have been built into this rotary—the most complete unit of its type on the market.



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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

NOV 24 1930

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THE OIL WEEKLY

VOLUME 59, NO. 10 NOVEMBER 21, 1930

Findings of A. P. I. Special Committee on the Economic Situation

Big Reductions *of* Crude Runs Recommended *in* Report

CHICAGO.—Reduction of gasoline production by 8.2 per cent, with a view of reducing gross stocks to 40,000,000 barrels on April 1, 1931, is recommended in the report of the American Petroleum Institute's special committee on the economic situation. This reduction in refinery through-put anticipates that the demand for crude will be 2,392,000 barrels from all sources, as against the September rate of 2,531,000 barrels per day, the two figures including all crude oil, including exports and imports.

The committee had before it the report of the committee on petroleum economics of the Federal Oil Conservation Board, and its recommendation of 8.2 per cent reduction in gasoline production and consequent reduction of crude oil consumption, differs from the federal committee's recommendation of seven per cent reduction because the Institute committee's judgment is that 40,000,000 barrels in stock on April 1 more nearly approximates the industry's requirements than does the 45,000,000 barrels recommended by the other body.

The Institute's committee had before it returns from a questionnaire indicating that refiners had planned runs to stills during the winter which would have resulted in a much greater accumulation of stocks on April 1, and which indicated that these refiners anticipate an increase in gasoline consumption which the present committee cannot see.

"The petroleum industry faces, during the six months from October 1, 1930, to April 1, 1931," says the report, "a demand for its products which will reflect the general business depression, and it cannot expect, under present conditions, to have the large annual percentage increase in demand for its products it has enjoyed during past years.

"Our own statistical sub-committees estimated a demand for gasoline for the six months under review of 208,000,000 barrels. This is 1.2 per cent higher than the actual demand during the corresponding period one year ago. The Federal Oil Conservation Board's committee has indicated that demand over the current six months period will not differ materially from the actual demand during the corresponding period 12 months before. This concordance in estimates by two entirely different authorities is of great significance and should warrant much confidence in the accuracy of the conclusion reached.

Refinery Stocks

"Our statistical sub-committee concluded that an aggregate refinery stock of gasoline on April 1, 1931, of 40,000,000 barrels would be adequate, economically and conveniently, to supply all gasoline demand during the succeeding summer. This committee offers the same conclusion and wishes urgently to point out that a larger accumulation would be wasteful in every sense. Present stocks are approximately 40,000,000 barrels.

"The statistical analysis appended indicates that an 8.2 per cent reduction, starting October 1, in aggregate refining production by straight-run, cracking, natural gasoline blended, and imports, would give an aggregate stock condition April 1, 1931, of 40,000,000 barrels. This also indicates an average crude oil demand, during the period, of 2,392,000 barrels per day. This total demand includes

(Continued on page 51)

STATISTICAL REPORT

Page 53—A general Statistical Summary, relating prospective demand and supply for gasoline, crude oil and gas and fuel oils.

Pages 54-55—Method of Estimating Crude Runs to Stills by Districts.

Page 55—Prospective and Possible Gasoline Stock Situations, April 1, 1931.

Page 56—Crude Oil Situation in the United States, October 1, 1930, April 1, 1931.

Page 56—Estimated Demand for Crude Oil by Fields of Origin.

Page 56—Estimated Required Gasoline Output by Refinery Areas.

Page 57—Estimated Shipments of Gasoline by Refinery Areas.

Page 57—Consolidated Statement of Estimated Gasoline Production, Shipments and Stocks.

Page 52—Effect upon Crude Demand of Variations in Supply of Cracked Gasoline.

Panhandle Operators Air Grievances at Meeting

FORT WORTH, Texas. — Underground waste taking place in Texas Panhandle fields in the past and present; irregularities of proration enforcement; and restriction of pipe line service were among the grievances aired out by Panhandle operators during a special hearing held here November 15 by the Texas Railroad Commission. R. D. Parker, chief supervisor for the oil and gas division of the commission presided at the hearing, which was called to substantiate the amended proration rules applied to the Panhandle November 1, and also to ascertain whether proration shall be continued until March 1, 1931. All testimony was recorded for submission to the three members of the commission for final action, and no decision will be announced until the latter have studied the report. However, it is quite probable that proration will be continued, except on leases that are exempt by court orders.

Restriction of crude production in the Panhandle to conform with nominations of oil purchasers and pipe line companies instead of having a fixed maximum quota is likely to occur shortly. In the event the district is placed on such a basis the allowable production will be greatly reduced from its present quota of 70,000 barrels daily, as some of the purchasers are taking more crude than actually desired in order to help maintain the maximum allowance authorized by the commission's rules.

No market relief is in sight for the owners of about 130 completed and shut-in oil wells in the Panhandle, as representatives of pipe line companies are not willing to make new pipe line expenditures, that are necessary to provide connections for such wells. Umpire H. J. Corcoran testified that an investment of approximately $200,000 in material and labor would be required to serve non-connected wells with the nearest possible pipe line facilities.

Panhandle district is generally known as a "sore spot" in the state-wide proration program, and has been the source of many protests as to alleged inequalities of proration and distribution of market outlet. Even though the district has approximately 180 separate operators, consisting of companies, partnerships and individuals, there were only about 30 present at the Fort Worth hearing. Of this number only about 15 separate lease owners were on hand, as some of the major companies had as many as five representatives in attendance. Active participation in the proceedings of the meeting was largely confined to representatives of Phillips Petroleum Company, The Texas Company, Gulf Production Company, Humble Oil & Refining Company, Fain-McGaha Oil Corporation and Midwest Exploration Company.

Says Plan is Illegal

P. O. Settle, Fort Worth, legal representative, Gulf Production Company, entered the latter company's customary protest against proration, and particularly objected to the 12-barrel well marginal feature now in use and the proposed pipe line feature. Settle charged that the latter would undoubtedly result in production being fixed by the whim of the purchaser. He climaxed his remarks with the statement that the entire plan is illegal.

A. C. Smith, Wichita Falls, assistant division manager in North Texas and Panhandle for The Texas Company, assisted Parker in questioning witnesses in order to bring out testimony that will guide the commission in making a ruling on the Panhandle proration plan.

David Donoghue, Fort Worth, technical advisor for the central proration committee, was the first witness to testify, and gave a brief outline as to production potentials and allowances in Texas, and particularly in the Panhandle. Don Emery, Amarillo, chief counsel in the Texas district for Phillips Petroleum Company and subsidiaries, cross-questioned Donoghue at length, resorting to tricky questions that often involved several hundred words each. Emery's questioning continued for nearly one hour, and the course he followed indicated to those present that as legal representative of Phillips Petroleum Company he sought grounds to have proration restrictions withdrawn, or amended so as to be beneficial to his company.

Testimony given by W. N. Finnegan, Jr., statistician for Humble Oil & Refining Company, Houston, credited the United States with having 13,726,643 barrels of daily potential production on October 15, including 7,648,493 barrels from prorated and non-prorated fields in Texas. He added that Van field is now rated in the 1,000,000 barrel daily potential class. There are about 60 fields and pools in Texas that are now exempt from proration restrictions, according to W. N. Finnegan, Jr., and these areas have an estimated production of about 115,000 barrels daily. Emery demanded that the names of these non-prorated areas be read into the minutes of the meeting, and extracted an admission from the witness that Humble Oil & Refining Company was a producer in a number of said areas. At the request of Emery, Finnegan was instructed by the chairman to supply data as to the amount of oil Humble Oil & Refining Company is producing daily in the non-prorated areas to be included in evidence accumulated at the hearing.

Give Production Statistics

Finnegan furnished a mass of statistics in regard to crude production, refined oil production and market demand for Texas, United States and the world as result of questions put forth by Emery, Smith and Settle. The witness stated that idle storage in the United States does not exceed 50,000,000 barrels, and that the nation could produce about 6,000,000 barrels daily should all wells be thrown open. He testified that crude stocks in the Panhandle amounted to 17,795,575 barrels on October 1, 1930. He quoted government figures to the effect that a 55,000-barrel steel storage tank filled with crude involves an annual carrying charge of 28.8 cents per barrel to cover evaporation, depreciation and miscellaneous expense. Texas has approximately 148,000,000 barrels of crude and refined oils in storage, exclusive of oil in pipe lines and lease tanks, according to Finnegan.

(Continued on page 44)

Gas Conservation Offered by Ames as Cure of Industry's Ills

CHICAGO. — Gas conservation, the practical solution to the economic ills of the industry, was advanced by C. B. Ames, general counsel for The Texas Company, in the keynote address of the eleventh annual meeting of the American Petroleum Institute here last week.

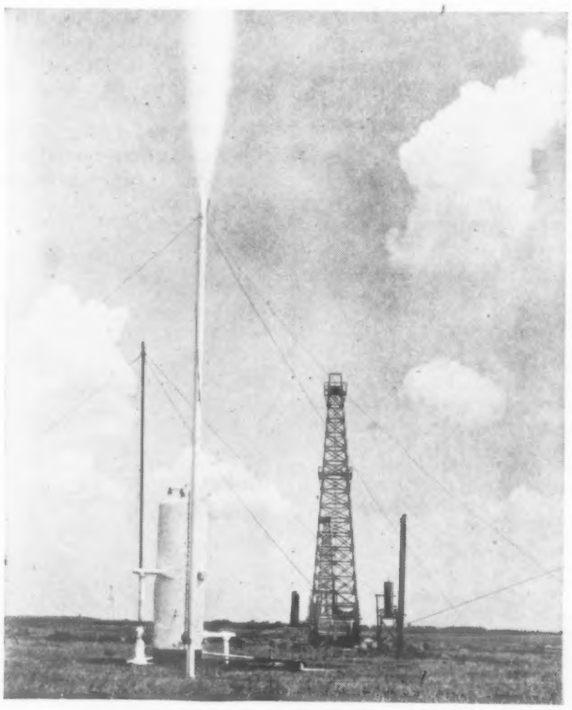
Laws are already in force that prohibit the waste of gas in the several producing states and the validity of these laws has been upheld by the Supreme Court of the United States as far back as 30 years ago, according to Judge Ames. Their proper enforcement at this time would in the first place stop a "terrible waste of an exhaustible and irreplaceable natural resource" while at the same time reducing the daily average production of oil in the United States more than 400,000 barrels or to a point more nearly the demand.

Dispensing with the subjects, proration, curtailment, unitization and tariffs against the importation of foreign oils, as measure of purely temporary value, Judge Ames cited the tremendous waste of gas now existing in the flush fields of Texas, Oklahoma and California and its resultant increase in the production of crude oil beyond all economic bounds.

It is estimated that 2,000,000,000 cubic feet of gas are being blown into the air every day of which Judge Ames claims California is wasting approximately 600,000,000 cubic feet, Oklahoma 400,000,000 cubic feet, the Texas Panhandle 500,000,000, and West Texas and New Mexico about 250,000,000.

Continuing, Judge Ames said:

"Last year the total consumption of natural gas is estimated at 1,918,000,000,000 cubic feet, of which 360,000,000,000 cubic feet were used by 5,116,000 domestic consumers, the rest being used for field purposes, carbon black, fuel, and like purposes. The total consumption, therefore, for domestic purposes, was less than 1,000,000,000 feet per day, while the total consumption for all purposes was something over 5,000,000,000 feet per day. We are, therefore, blowing into the air twice as much gas as is being used for domestic purposes and approximately 40 per cent of the total consumption, and nearly all of this waste is occurring in three states.



Oklahoma Practice—Gas blowing into the air

"Under the established law of the land, each state has the power to stop this waste, and it is well to inquire what the effect would be if the states should exercise this power.

In the first place, it would stop this terrible waste of an exhaustible and irreplaceable natural resource. The average price per 1000 cubic feet paid by domestic consumers in 1929 was 62 cents and in the course of time, there will be a market for every foot of the gas that is now being wasted.

"In the next place, it would reduce the oil production. It is estimated that this gas which is being wasted is bringing to the surface more than 400,000 barrels of oil per day. In addition, the gas which is being wasted is producing enormous quantities of natural gasoline which is not needed at this time, and which is a contributing cause to the demoralization of the industry. A reduction of 400,000 barrels of crude per day, and a reduction of the natural gasoline output derived from the wasted gas would have an immediate effect upon the crude situation of incalculable value to the industry.

"This diminution of the crude supply would result in better refinery practices in order to increase the percentage of gasoline recovered and reduce the fuel oil output. The effect of this would be to avoid flooding the market with fuel oil, thereby improving the price received and benefitting both the coal industry and the railroads.

"It would likewise reduce the enormous stocks above ground and thus bring the industry into a better statistical position.

"After a while, as the demand for crude increases, the gas which would otherwise be wasted would be returned to the oil sands for further use in the production of crude, thus increasing the ultimate yield by a figure which is estimated by some competent observers as 20 per cent of the total.

"The tendency, also, would be to discourage wildcatting, as there would be no incentive to discover new flush areas before there was a market for both the gas and oil.

"It would greatly benefit the oil producing states by conserving their natural resources and encouraging industry and promoting a fair price for their products, to say nothing of the direct benefit to the state governments, by increasing their

(Continued on page 48)

Unit Operation Is Central Theme for

CHICAGO.—Proponents of "unit operation" found ample opportunity to give voice to their proposals at the annual meeting of the American Petroleum Institute here last week. Conferring delayed recognition upon this much mooted subject, the Institute selected it as the principle feature of the group sessions of the division of production. In addition it was the subject of a special joint evening session attended by a representative gathering of the oil industry. It was readily a topic of discussion at all informal gatherings where the economic ills of the industry came under consideration.

Unit operation was first proposed by Henry L. Doherty as late as 10 years ago, but it was not given serious consideration by any large number of the industry until several years later. It has recently been one of the prinicpal activities of the Mid-Continent Oil & Gas Association and has been a part of the Institute's program for the past two years.

The request for a resolution from the engineering session on unit operation by the board of directors of the Institute as to the effect of unit operation upon the ultimate recovery of oil elicited considerable surprise from those advocates concerned with the economic aspects of the subject.

At this point J. R. McWilliams suggested as a substitute for the commonly accepted unit plan a theory based on the equal proportioning of gas energy leaving each operator to produce and handle his wells in his own fashion.

Mr. McWilliams said: "In most pools gas is the motivating force; gas under pressure is the motivating force that puts oil in the hole. It is really the big migratory product. The oil will migrate but in my opinion there isn't a great deal of migration. So to take proratively of the production from a pool, let every company have a percentage of the motivating force. In a new field determine the mean average pressure and allow each operator to utilize the pressure in his operations accordingly."

Under such a plan, it is Mr. McWilliams' idea that each operator can operate his wells or property according to his own operating methods.

Following the presentation of a paper on "Land and Lease Aspects of Unit Operation," by John P. West, Mr. William B. Sutton, Vacuum Oil Company, Houston, stated that he was much interested in the land and lease standpoint since for the most part previous discussions have been concerned with how profitable such an operating problem would be after the industry gets it, whereas the land man will be the one to "born" the thing.

Additional discussion followed all dealing with the engineering and economic value of unit operation.

Another paper presented at this session gave a com-

Again A. P. I. President

Edwin B. Reeser, president of Barnsdall Corporation, Tulsa, Oklahoma, and its subsidiaries, and for two terms president of the American Petroleum Institute, has been in the oil business 40 years.

E. B. REESER

He began in August, 1891, as an office boy in the National Transit Building, Oil City, Pennsylvania, then headquarters for subsidiaries of the old Standard Oil Company of New Jersey. Within two years he was transferred to Sistersville, West Virginia, where at 20 years of age he was placed in charge of the company's gas division. He served the organization in various capacities for nine years, and then went into business for himself. When, in 1904, the late T. N. Barnsdall acquired control of a company in which Mr. Reeser personally was interested, he became connected with the Barnsdall interests.

Mr. Reeser was born July 15, 1873, at New Ringgold, Pennsylvania, and was educated in the New Ringgold public schools. He married Mary E. Isherwood, of Marietta, Ohio, in 1897. Two sons, Edwin I., and Harry C., were born.

Mr. Reeser has served on various committees and the Board of Directors of the American Petroleum Institute and first was elected president at the ninth annual meeting in 1928. He was re-elected in 1929. He is a member of the Bankers (New York) and Duquesne (Pittsburgh) clubs, as well as of the Masonic order. His home is in Tulsa, and he has offices there, at Los Angeles and in New York.

During his terms of office Mr. Reeser has been a consistent proponent of petroleum conservation. He has travelled extensively throughout the country studying developments in the various oil-producing states, and has spoken at numerous meetings, hearings, etc., in favor of conservation, proration, unitization and other policies of self-regulation for the petroleum industry.

J. R. MCWILLIAMS
Newly elected chairman Central Committee on District Activities, Production Division

WALTER H. MEIR
Newly elected vice-chairman Central Committee on District Activities, Production Division

Division of Production Discussions

parison of unit operation and competitive drilling in the Santa Fe Springs field.

Unit operation came up for discussion again at the Wednesday evening session, when T. E. Swigart, Shell Oil Company, Los Angeles, speaking on the engineering and economic aspects, asserted that this policy is suited best to the purpose of accomplishing these necessary results: co-operation to avoid the evils of competitive development; regulation of output to avoid over-production; and fair division of current and ultimate revenues from underground deposits of oil and gas among rightful owners.

Mr. Swigart quoted figures to show that unit development and operation of certain oil pools could have produced earnings as much as 170 per cent higher and reduced costs by as much as 64 per cent.

Reeser Again Elected President —Penn Vice-President for Production

CHICAGO.—Edwin B. Reeser, president of the Barnsdall Corporation, and for the past two years, president of American Petroleum Institute, will for the third term lead the activities of the Institute by the unanimous vote of the board of directors.

Mr. Reeser had indicated his desire to pass the office along to others but the general feeling of the directors was that it would be ill-advised at this time to make any change in view of the "splendid manner in which Mr. Reeser had directed the affairs of the Institute during the past two hectic years in the oil industry."

L. P. St. Clair, Union Oil Company of California, was reelected vice-president at large, as was W. R. Boyd, executive vice-president, A. L. Beaty, treasurer and Lacy Walker, secretary and assistant treasurer.

New divisional vice-presidents were elected with Robert R. Penn, Penn Oil Company, Dallas, vice-president for production, R. C. Holmes, The Texas Company, New York, vice-president for refining and E. G. Seubert, Standard Oil Company (Indiana), Chicago, vice-president for marketing.

The divisional vice-presidents serve as exofficio chairmen of the general divisional committees with Executive Vice-President W. R. Boyd as exofficio vice-chairman while C. A. Young, R. P. Anderson and Paul Hadlick are secretaries respectively of the producing, refining and marketing divisions.

The following executive committee was elected: The president, vice-presidents, treasurer, last retired president (E. W. Clark, Union Oil Company of California, Los Angeles) and J. Howard Pew, Sun Oil Company, Phila-

H. H. Hill
Newly elected chairman of the Central Committee on Drilling and Production Practice

Carl A. Young
Re-elected secretary of Central Committee and Committee on Drilling and Production Practice

Heads Production Division

Election of Robert R. Penn, president of Penn Oil Company, Dallas, as vice-president Production Division of the American Petroleum Institute, is recognition of the younger generation of oil men. In recent years he has been actively identified with standardization and conservation work of the Institute, and particularly with unitization and proration within the borders of Texas. He is at present general chairman of the central proration committee for Texas.

Robert R. Penn

Mr. Penn was born at Taylor, Texas, July 23, 1890, and the foundation for his oil industry activities was gained at University of Texas when he graduated with an A.B. degree in Geology in 1910. Newspaper reporting proved more attractive at the time of his entry into the business world. Penn terminated 10 years of service with the Dallas News, Dallas, in 1921, and during this period established many acquaintances with oil men and also familiarized himself in a general way with oil operations. His entry into the oil business followed the abandonment of the newspaper profession. He began hitting his stride in 1923, and during this year he joined partnership with Truett B. Cranfill, S. P. Farish and others, with operating offices at Corsicana. The Mexia-Corsicana fault zone was then the most attractive area for independents, and Penn fared well in the years that followed. The original partnership was dissolved, and new affiliations were made on several occasions. Dallas was chosen as headquarters, and it was shortly after locating in there that Penn Oil Company was formed.

Operating as the head of the Penn Oil Company, Penn has made a series of successful wildcat and semi-wildcat strikes in Southwest and West Texas, and has also accumulated considerable oil producing royalties. In addition to giving personal attention to the operations of the above company, Penn has become one of the most active drilling contractors in the state

New Division Vice-Presidents

R. C. Holmes
Refining

Edward G. Seubert
Marketing

delphia, W. C. Teagle, Standard Oil Company of New Jersey, New York; H. F. Sinclair, Sinclair Consolidated Oil Corporation, New York; F. A. Leovy, Gulf Oil Corporation, Pittsburgh; W. S. Fitzpatrick, Prairie Oil & Gas Company, Independence and Herbert L. Pratt, Standard Oil Company of New York, New York. Robert R. Penn, Penn Oil Company, Dallas, and A. L. Beaty, New York, become directors through their election as officers. (Other directors elected were reported in the November 14 issue of The Oil Weekly.)

The following membership committee was elected: Roy B. Jones, Panhandle Refining Company, Wichita Falls; C. H. Kountz, Prairie Pipe Line Company, Independence; W. C. McDuffie, Pacific Western Oil Company, Los Angeles; W. T. Holliday, Standard Oil Company of Ohio, Cleveland; and C. L. Suhr, Pennzoil Company, Oil City, Pennsylvania.

Determination of Potentials Discussed at Session

CHICAGO.—Methods of determining the potentials of wells without subjecting them to the unsatisfactory and sometimes wasteful practice of open-flow measurement prompted considerable discussion at the engineering session of the annual meeting of the American Petroleum Institute devoted to drilling, production, and pipe line transportation.

Oklahoma operators expressed particular interest in any method that would accomplish an accurate determination of potential output in view of proration procedure in the Oklahoma City field. Oklahoma City wells are now produced on a time basis, but storage congestion has reached a point where an effort is being made to change the proration plan to one of percentage.

Supplementing his paper on "Improvement in Production Practice," W. W. Scott gave a brief review of a plan now being tried by the Hobbs field engineering group to determine the potential of Hobbs wells without opening the wells to full capacity.

Hobbs wells have been very large, and early in the experience of the field operators were encouraged to tube their wells with three-inch tubing with the hope that the potentials could be taken through that size tubing. However, it was found that the capacity of a three-inch flow line was not sufficient to give an index of the potential possibilities of a given well.

So, according to Mr. Scott, a large number of tests were made where a well is flowed first through the tubing and then through the tubing and casing together and the open-flow through the tubing plotted against the open-flow through the casing and the tubing. This has developed a general curve which he says has a great deal of merit in determining the potential of a well by just flowing through the tubing since there is a very good relation between those two points.

The Hobbs engineering group has developed an average curve by which it appears Mr. Scott says "they can flow a well through the tubing, say 5000 barrels, which will give them a potential of close to 8000 barrels per day. The curve is now being checked and the well flow without the curves are being studied."

Depends on Well's Completion

Flowing a well for potential volume is dependent almost entirely in a given reservoir upon the way in which the well is finished, was the comment of E. O. Bennett, chief engineer, Continental Oil Company, Ponca City. Thus, Mr. Bennett pointed out, the man who takes the best care of his wells, tubes them early in the life of the wells, will have a better flow, whereas on the basis of openwell tests he is severely penalized on the basis of what he is able to take out of those wells.

Mr. Bennett suggested that the matter be gone a little further into by making use of bottom hole pressure and conditions, measuring in absolute units in the bottom of the well, thus eliminating the size of the tubing or casing factor and give an impartial and fair basis to all wells based upon the potential of the reservoir rather than the manner in which the wells are equipped for daily operation.

Mr. Bennett compared the situation to that of gauging steam boilers. The gas reservoir and the oil reservoir are both full of fluid under energy and can be likened unto a steam boiler. He said that the same laws apply with a water-drive or a gas-drive or a combination of each and whether the well is producing straight gas, straight oil or, oil, water and gas, or any combination of the same.

Other papers presented before the engineering sessions include: "Selection of Oil Well Casing Based on California Practice," by J. R. Gignoux; "Development of Water Supply and Treating Methods in a Modern Oil Field," by W. K. Whiteford, and "The Mechanics of Oil Well Pumping," by H. E. Dralle.

Analysis of Corrosion Cost Recommended in Report

CHICAGO.—Analysis of the economic importance of corrosion and a more thorough investigation of the value of numerous methods proposed for the mitigation of the large, but unestimated losses, were recommended by Stanley Gill, research engineer for Gulf Oil Corporation at Houston, in a report he presented before the group session of the division of production as chairman of the division's sub-committee on production corrosion. Mr. Gill said no estimate of the losses caused by corrosion of production equipment could be made with any degree of accuracy because of incomplete data and there is not even a complete agreement on the basic nature of the several types of corrosion experienced.

Mr. Gill explained that the chief sources of corrosion appear to be well fluids, electrolytic action, formation wa-

Central Committees Named

Officers of the Central Committees of the division of production, elected at the business session of the division, are as follows:

Central Committee of District Activities

J. R. McWilliams, Skelly Oil Company, Tulsa, chairman.

Walter Meir, Atlantic Oil Producing Company, Dallas, vice-chairman.

C. A. Young, American Petroleum Institute, Dallas, secretary.

Central Committee on Drilling and Production

H. H. Hill, Standard Development Company, New York, chairman.

F. W. Lake, Union Oil Company of California, Los Angeles, vice-chairman.

C. A. Young, American Petroleum Institute, Dallas, secretary.

All standing committees of the division of production continue the same.

ters, fatigue and embrittlement of equipment, oxygen, hydrogen sulfide gas, soil and atmospheric, and said that even in oil fields where corrosion is not considered to be a problem it is the direct cause of other well troubles. He outlined a number of methods now being used to overcome corrosion and recommended further study.

K. H. Long, of the United States Bureau of Standards, underground corrosion section, Washington, D. C., presented a report of the work of the section during the past year. Progress in the study of underground pipe protection is sponsored by the Institute, pipe coating manufacturers and the Bureau of Standards was also discussed.

Pipe coatings were held to be "insurance premiums" because they insure longer life, in a paper on "Pipe Protection—Why and How," presented by H. T. Thornhill, secretary-treasurer, Underground Pipe Protection Institute, New York. Mr. Thornhill declared that pipe protection by coating was dependent largely upon proper application and he recommended that the Institute's code of good practice in preparation of pipe and application of material be followed.

Joseph F. Putman, Standard Oil Company of California, San Francisco, speaking on the causes and predetermination of soil corrosion, asserted that soil corrosion, being an electrolytic phenomenon, may be evaluated in terms of electrical units.

A. P. I. Votes to Continue Work on Petroleum Research

Chicago.—The work of fundamental research in petroleum will be continued as a result of the action taken by the board of directors at the eleventh annual meeting of the American Petroleum Institute here last week. A plan for raising a special fund of $100,000 per annum by contributions from individual companies was approved.

Work on fundamental research in petroleum was started nearly five years ago with a gift of $250,000 from John D. Rockefeller and a similar contribution from Universal Oil Products Company. The five-year period provided by these gifts will end June 30, 1931.

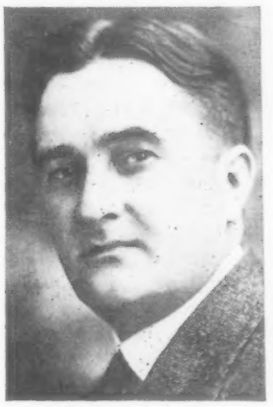
The resolution favoring continuation of the research work was submitted by the committee on research of the American Petroleum Institute, comprising Walter C. Teagle, W. R. Boyd, Henry M. Dawes, Henry L. Doherty, H. R. Gallagher, W. M. Irish, K. R. Kingsbury, J. Howard Pew and Wallace E. Pratt.

Definite Action on Tariff Problem Side Stepped

CHICAGO.—Although the tariff question was injected into many of the sessions at the meeting of the American Petroleum Institute here last week, directors sidestepped definite action that would place the approval of the Institute on such a protective measure. In holding over action on the subject which occupied more than a day's discussion by the directors, it was indicated that it would be brought up for consideration at a future meeting of the board.

When it was apparent that the directors would be unable to reach any definite decision on the question the following announcement was released:

"The board had under consideration a resolution offered by Mr. Wirt Franklin that the Institute endorse in principle the imposition of a tariff on crude oil and refined products imported into the United States.



WIRT FRANKLIN

"The vote, as taken on Thursday morning, indicated that 26 directors were not present, 10 were present but not voting, 17 voted 'aye' and 15 voted 'no.'

"It was the concensus of opinion that the vote was insufficient to constitute the result as a test of opinion of the membership board, or to commit the Institute either for or against the resolution. It was then voted unanimously to reconsider the action indicated above and lay the resolution upon the table for action at some later date."

Previously Wirt Franklin had made a plea for the tariff at the special joint economic session of the three divisions of production, refining and marketing, held Monday night prior to the opening of the annual meeting of the Institute.

A. P. I. Meets in Chicago in 1931; Plan Mid-Year Meeting

CHICAGO.—The twelfth annual meeting of the American Petroleum Institute will be held November 10, 11 and 12, 1931, at the Stevens Hotel, according to an announcement by the board of directors.

In order to avoid the congestion arising from the many committee meetings (there being more than 70 committee meetings at the eleventh annual meeting this year) the board of directors elected that the three divisions of production, refining and marketing should hold separate mid-year meetings. Committee work will be dispensed with at these mid-year meetings leaving only final reports to be presented at the annual gathering next November.

The time and place of the mid-year meetings are to be decided upon by the officers of the three divisions and will be announced at a later date.

It is believed that the summer meetings of the division of production will be held at Colorado Springs during June.

IN TWO PARTS—PART ONE

Engineering *and* Economic Aspect *of* Unit Operation

By T. E. SWIGART
Superintendent of Production, Shell Oil Company, Los Angeles, California

THIS paper, delivered before the A. P. I. meeting at Chicago, attempts briefly to point out the in dealing with these econemic problems. It also discusses some of the major problems involved in practical application of unit operation to American fields.

Material has been drawn from the district papers presented under the sponsorship of the Central Committee on drilling and production, but most of the material describes the writer's first-hand experience gained helping to develop a workable unit plan for North Dome Kettleman Hills field, California.

Despite consolidations and mergers within the petroleum industry, competition between operators in given fields has been so severe that farsighted oil men have urged them to combine their efforts in the interests of economy in developmnt and production. More recently overproduction and resultant lowered prices have added another incentive to unit operation. Finally the matter of actual physical waste has brought warning from the public through state and federal agencies.

FOR several years, the oil industry has produced more petroleum and petroleum products than required for its markets. While consumption of petroleum products has increased at a healthy rate each year, production has increased even faster with the result that stocks of crude oil and refined products have now reached burdensome proportions. The age old law of supply and demand operates to regulate the course of the oil industry just as it does all other business and one would be bold to suggest that the workings of this law alone are not sufficient to correct the evils of unbalanced production and consumption of petroleum. In fact, supply and demand may be counted on ultimately to correct such an unbalanced position but because of certain factors peculiar to the oil industry, correction usually comes so late and therefore with such intensity that great financial losses occur. In other words, waiting for operation of this economic law to correct over-production is like closing the barn door after the horse is stolen.

Oil and gas are migratory substances and in the absence of co-operative effort must be produced as rapidly as possible by all owners in a given field. Any owner who is tardy in his operations is bound to suffer losses by drainage to those who are more diligent. Thus, once oil is discovered, every owner of nearby property in the field must drill and produce to protect his property with the result that development spreads rapidly and production increases correspondingly.

It is frequently asked why operators do not discontinue drilling in flush fields when it becomes apparent that an ultimate loss may be sustained if the prices of petroleum and its products are lowered because of over-production. A number of reasons prevent abrupt discontinuance of drilling and production operations by individual operators in a field where no co-operative arrangements have been made for a general cessation of operations. Different operators may find themselves in different positions as regards their demands for oil. One may be able to supply his demands from his developed holdings in other fields. New production from a flush field is costly to him and may force him to build storage or to sell crude oil at low prices. This operator, of course, is willing to enter into an agreement to develop his holdings at a conservative rate if his neighbors will do likewise. A neighbor, however, may have very limited holdings in other fields and may have a ready market for a large production. The new field may even mean the difference between success and failure to this operator. He naturally is unwilling to curtail his development program and his insistence upon continuing rapid development and large production necessarily sets the pace for every other operator in the field.

As reductions in oil prices are a result of overproduction and therefore seldom come until production of a field is near its peak, it generally happens that a large part of the capital for development and lease facilities has already been spent by the time the price is reduced. Operators cannot afford to discontinue drilling and forfeit their leases then because, while some expenditure may still have to be made, the property is probably at the earning stage and earnings even with low prices will partly, if not wholly, return the money invested.

Lessors Largely Responsible

Lessors are likewise an important factor in forcing continuous and rapid development and production. More often than not lessors are parties who have no other oil interests and they naturally desire the greatest possible income from their royalties at once so that they may enjoy the benefits. If one or more operators in the field carry on an intensive development program, lessors naturally demand equal development of their respective holdings and in the absence of cooperative action, which would insure protection against drainage, lessors may even demand rapid development regardless of the market structure. In such instances, failure of an operator to drill and produce necessary offset

wells endangers his lease to forfeiture. An operator, therefore, even though he may desire to develop and produce at a conservative rate, may be faced with the possibility of losing his lease and all the money that has been spent on it or with producing at an excessive rate and either storing the production or selling it at a loss. Generally he elects to hold his lease and take his chances on disposing of his production on good enough terms to return his capital even though the flush period may be unprofitable.

The discovery and unrestricted development of major fields, such as Oklahoma City, Yates and Kettleman Hills, results in new production in such quantities as to represent a substantial part of the country's entire production. Markets, of course, are not elastic enough to absorb such large quantities of oil so surplus oil must go to storage. The storing of crude and refined oil above ground is expensive, dangerous, and physically wasteful, and operators seek to avoid storing more than is needed for operating purposes. Therefore, every operator seeks an outlet for the flood of new production that follows the finding of a new field, and as markets are limited, price-cutting results. This is the working of the law of supply and demand. However, as pointed out previously, because of the migratory character of oil and gas, operators cannot slow down in their efforts to produce excepting by agreement, and lacking such agreement, overproduction must go on regardless of the relation of the supply to the demand.

The oil industry is vital to the daily life of the American people. The importance of a future supply of petroleum and its products is a matter that has caused the government and state officials to deplore the exploitation of oil fields at rates in excess of the country's current requirements. Over-supply leads to cheapness and this in turn to wastefulness in use. Moreover, neither the public nor its spokesman, the government, expect this vital industry to operate at a financial loss. As proof of their recognition of the evils of overproduction, government officials are continually urging the oil industry to regulate its supply to keep pace with demand and state governments, as well as the federal government, have passed laws legalizing co-operative action by oil men for this purpose.

Thus, the need for some form of cooperative operation or community effort is apparent. It must be of such type as to permit regulation of production and at the same time insure fairness to rightful owners in divisions of current and ultimate revenues from underground deposits of oil and gas. After careful analysis, it is the generally accepted theory that the unit form of cooperative action is the one best suited for accomplishing these several results.

Adaptability of Unit Operation

To be successful, unit operation must be developed along such lines as to give the greatest possible assurance of fairness to all parties interested. Cooperative operation, as compared to unit operation, implies that every operator retains his properties and conducts his own development work. This means retention of the competitive principle of offset drilling and production as every operator must protect his respective lessors and himself by drilling and producing necessary offset wells. The impracticability of this is clearly illustrated by an actual problem that would confront operators under cooperative operation in the Kettleman Hills North Dome field. Quoting from a discussion read before the American Institute of Mining and Metallurgical Engineers.[1]

"Assume, for example, that under a competitive development program, operator A owns 15 per cent of the proved acreage of the field and is entitled to a similar share of its total oil production and that operator B owns a 0.5 per

[1]Swigart, T. E., Discussion of Robt. W. Patterson's Paper on Kettleman Hills Unit Plan: American Institute of Mining and Metallurgical Engineers, October 17, 1930.

FIGURE 2-B
Dominguez field, California, illustrating orderly development under unit operation

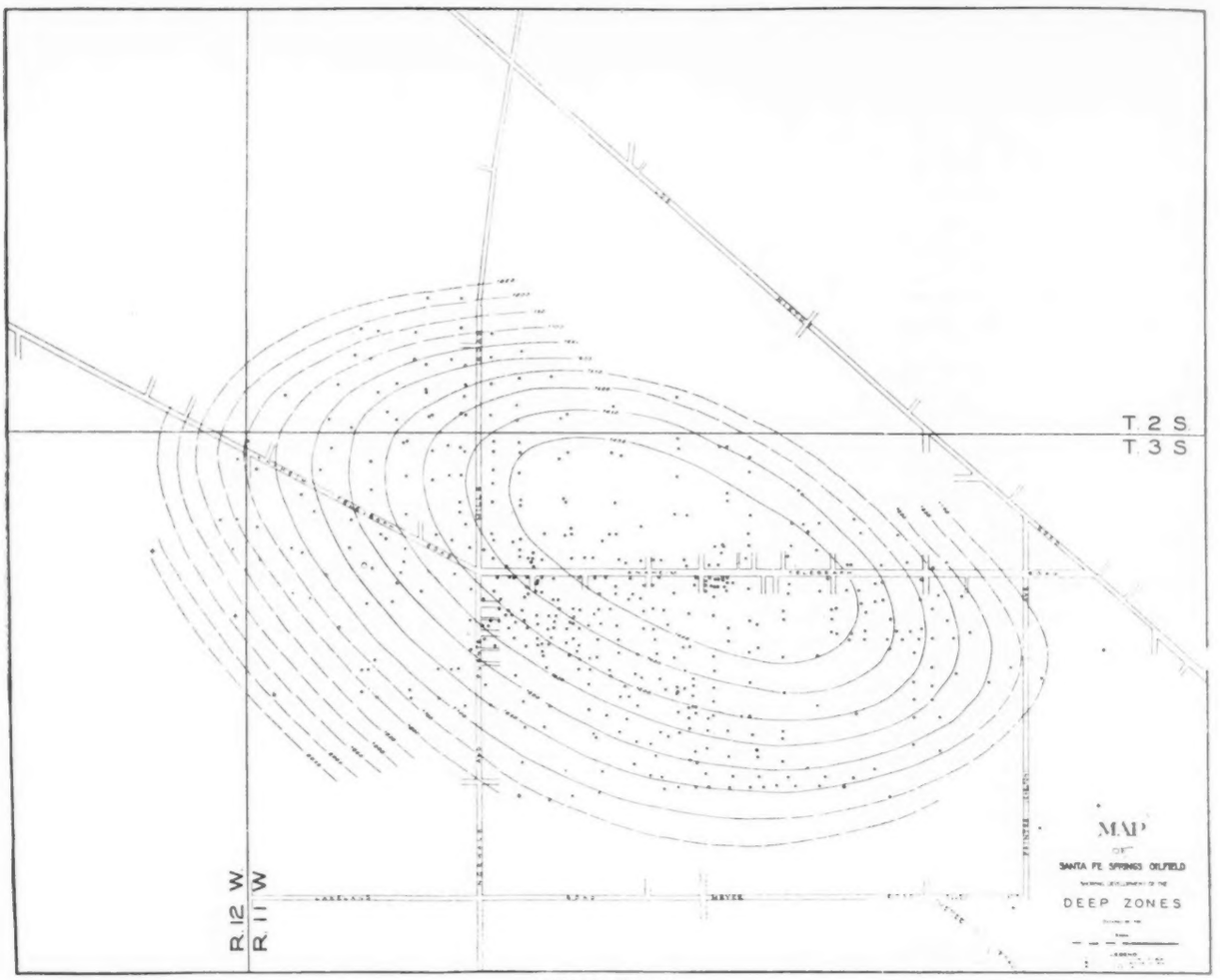


FIGURE 1-A

cent interest. Assume also that the field is allowed to produce 30,000 barrels per day of oils of all gravities and that the average gasoline content of these oils is 75 per cent. Operator A would be assigned a daily oil production of 4500 barrels per day and B, 150 barrels per day. Operator A would doubtless own several tracts with rather extensive boundaries which would have to be protected against offset wells. Considering the diversity of ownership both of land owners and operators, and operator owning as much acreage as A would have to drill at least 20 wells if every other operator drilled enough wells to give each of their land owners a share of the production and protection against drainage. Thus A might be required to produce as little as 50 or 100 barrels per day from small tracts. Probably a single well could never be allowed to produce more than a few hundred barrels per day. Operator B might have such a small tract that he would need to drill only one well to protect his property in which case his one well could produce the 150 barrels per day. However, it might also happen that he would have to drill and produce four wells to insure protection in which event each well could only produce 37.5 barrels per day. Remembering that Kettleman wells normally produce several thousand barrels per day of oil and even then develop tremendous pressures, it is doubtful if it would be safe and mechanically feasible to restrict the flow of a well to 37.5 barrels per day. Certainly an operator could not afford to drill a well at a cost of $350,000 to $400,000 for 37.5 barrels per day even though the oil was practically all gasoline.

"The problem of equitable division of production under cooperative action is further complicated by the gas and gasoline produced with the oil as both these substances are valuable to their owners and both are extremely migratory in character. In fact, drainage is exaggerated in the case of these substances. Consider that wells produce with different gas-oil ratios depending on the exact zone being drained and the methods of handling the wells. Adding these factors to the complications pointed out previously in dividing oil output among all land owners and operators, it is obvious that the problem involves too many complications to permit a mechanical division of products by means of flowing wells on every property at given rates and still insure fairness."

Unit operation permits such fine divisions of production or revenues from oil, gas, and natural gasoline to be made with fairness because every original owner has an undivided interest in the entire field and the need for offset drilling and production is thereby eliminated.

A further argument against cooperative operation is the impracticability of imposing adequate penalties to insure full performance of the cooperative agreement by all parties. If the agreement is loosely drawn and dependent upon good faith, violation brings no penalty to the offender but to the contrary penalizes the other signatory parties. If penalties are severe enough to protect all parties against violation, they must be of the nature of awards of part or all of any overproduction of the offender and this is virtually unit operation. Cooperative operation, further-

more, usually involves determinations of potential productions which in turn are greatly influenced by the methods involved in handling wells and such matters generally lead to controversy.

Comparison of Costs

As suggested in the introductory paragraphs, possible savings in development and production costs through group operation in a given field as compared to competitive operation provided the first incentive for adoption of the unit form of development and production. This feature of unit operation has been somewhat overlooked in recent months chiefly because of the adaptability of unit plans to the control of overproduction and the vital importance of overproduction to the industry. However, the savings in development and production costs under unit operation as compared to competitive operation will usually be of tremendous proportions and alone are ample justification for consideration of unit plans.

Comparisons of actual development costs with estimated unit development costs are available for several fields. For example, James O. Lewis[2] estimates that the actual savings in development costs in Seminole City pool, Oklahoma, would have been $17,000,000 and the saving in production expense of $14,500,000 if unit operation had been used instead of the competitive methods that were actually employed. His recapitulation of income and expense, assuming that as much oil would be recovered by one method as the other, is as follows:

	Actual Operation	Unitization of working interests	Difference in favor unit operation
Estimated income from oil	$145,000,000	$145,000,000	.....
Estimated costs and expenses	78,500,000	47,000,000	$31,500,000
Estimated operating profits	$ 66,500,000	$ 98,000,000	$31,500,000

In short, this recapitulation shows a saving of 40 per cent in total expense which may be credited to unit operation and which, incidentally, is equivalent to almost 50 per cent of the estimated profits under competitive development.

In a paper on Santa Fe Springs field,[3] California, by Martin Van Couvering and presented at this meeting, it is estimated that the cost of development of the deep zones would have been $28,935,000 under unit operation as compared to an actual development cost of about $80,709,000. This would have been a saving of $51,764,000 or 64 per cent. While the exactness of such estimates may be questioned their general order of magnitude is correct. Figures 1-A and B are composite maps showing the actual deep zone wells and those which, according to Mr. Van Couvering, would have been needed under unit development. Some 500 wells were actually drilled, including the dry holes, as compared to the estimated number of 142 for unit development. Figures 2-A and B further suggest the possible savings in development where many more wells were drilled than needed to drain the sands. Figure 2-B illustrates orderly development in Dominguez field, California, which has resulted from combined unit and cooperative operation.

In summary, there is little doubt but that unit operation

[2]"Handbook on Unitization of Oil Pools", by Mid-Continent Oil and Gas Association, Tulsa, Oklahoma, pp. 55-63, 1930.

[3]Van Couvering, Martin, "A Comparison Between Competitive and Unit Operation in Santa Fe Springs Field, California": presented before division of production of the American Petroleum Institute, November 12, 1930.

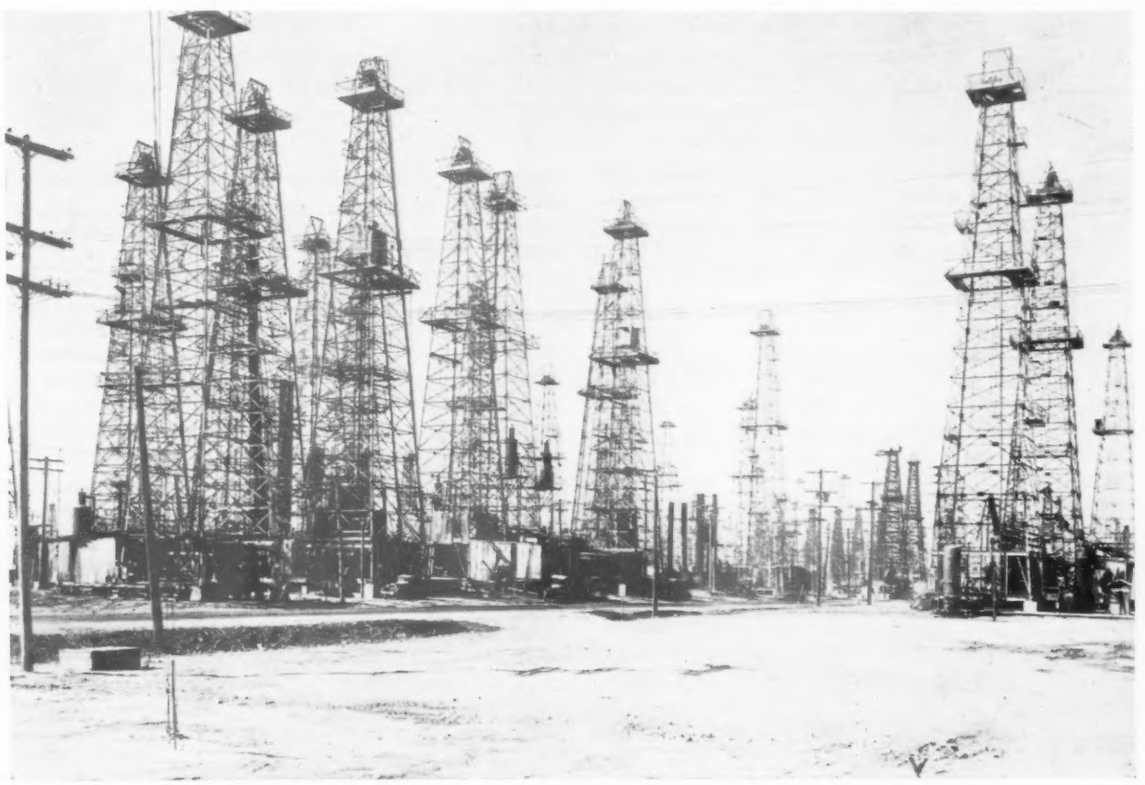


FIGURE 2-A
A portion of Santa Fe Springs field, showing close well spacing under competitive operation

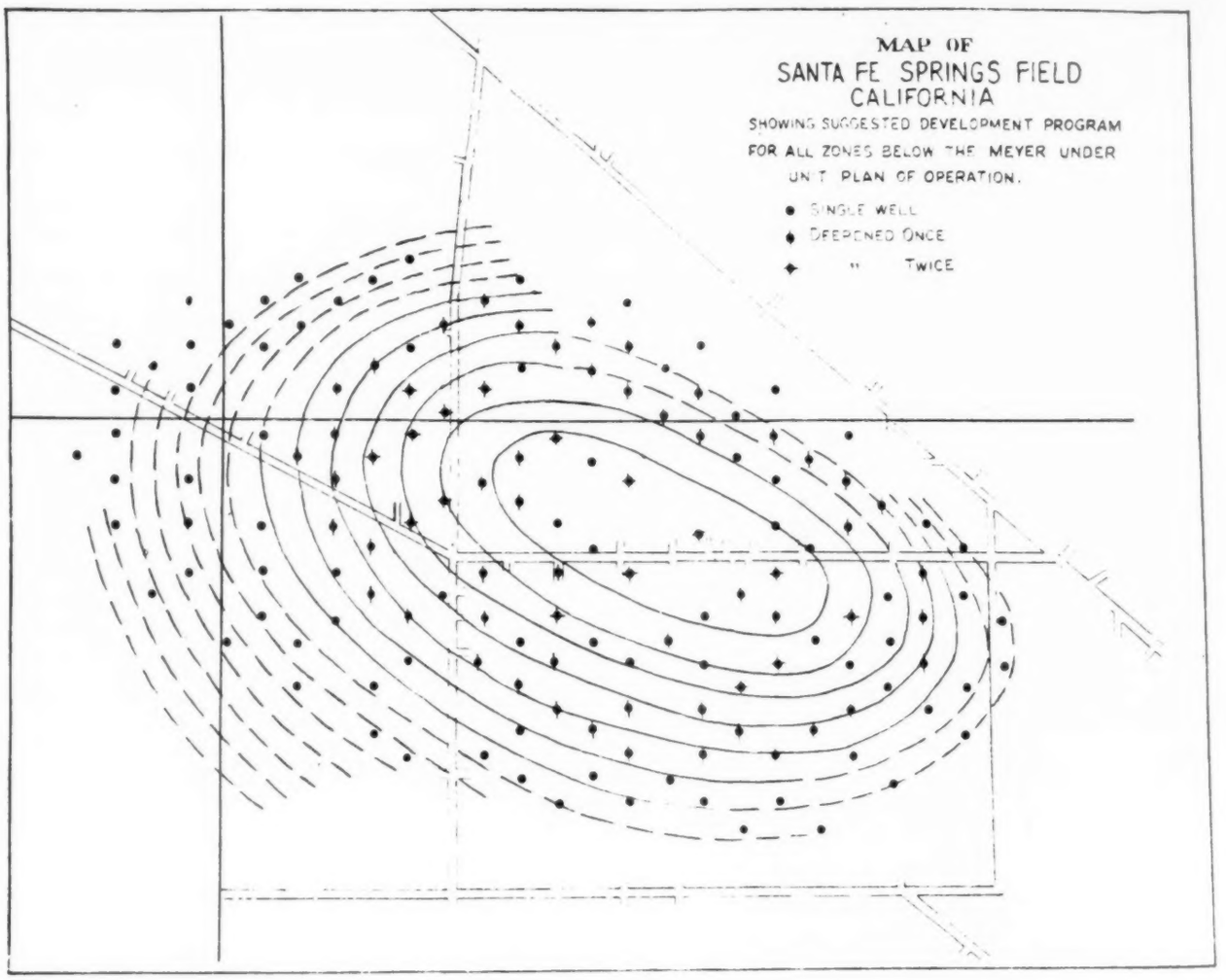


FIGURE 1-B

would greatly lower development costs in most every field. Fewer wells would be drilled, camp facilities would not be duplicated and other important items such as water and telephone systems, tank farms, pipe lines, pump stations, and the like, could be designed to avoid duplication.

Lower production costs are also possible under unit operation because of elimination of the operating costs of several camps and other field facilities that otherwise are maintained by each of several operators. A competent supervisory staff could manage an entire field as well as a few properties, thus avoiding duplication of the higher salaried staff members.

The management of a unit company would be expected to employ technical and operating men of the highest order with the result that most approved production methods would be used. This should not only mean greater ultimate recovery but longer flowing periods and therefore lower lifting costs. The exact savings in production costs under unit operation are difficult to estimate but it is certain that they would be substantial in any field that otherwise would be operated by a number of producers under competitive methods.

Relation of Unit Operation to Ultimate Revenue

Many opportunities exist under unit operation for increasing ultimate recovery and revenue. As mentioned previously, the unit operating company would be expected to employ technical and operating men of the highest caliber and these men would be aided in their production operations by the removal of legal boundary restrictions, excepting for a possible few tracts of outside acreage. The greatest advantage of such latitude is in controlling gas and thus insuring that it does the maximum amount of work in driving oil through the sands to wells. Also, such matters as repressuring or underground storage of surplus dry gas that has no ready market can be readily handled under unit operation, whereas they are frequently eliminated from consideration under competitive methods because of migration from one property to another.

Under previous methods of handling production close well spacing or "over-drilling" has generally resulted in greater recovery than wide spacing, although the apparent differences favoring close spacing are usually exaggerated because under highly competitive operation in townlot areas, for example, wells are drilled fast and close and undoubtedly drain some production from adjacent areas which are more widely drilled. This is an unfair advantage, insofar as ultimate recovery is concerned, which a given area would not enjoy under unit operation. Under unit operation it is certain that wells would not be so closely spaced as in townlot areas. However, it is reasonably safe to assume that more efficient control of the gas energy within a reservoir will permit of as great ultimate oil recovery over a long period of time as that from close spacing in a short

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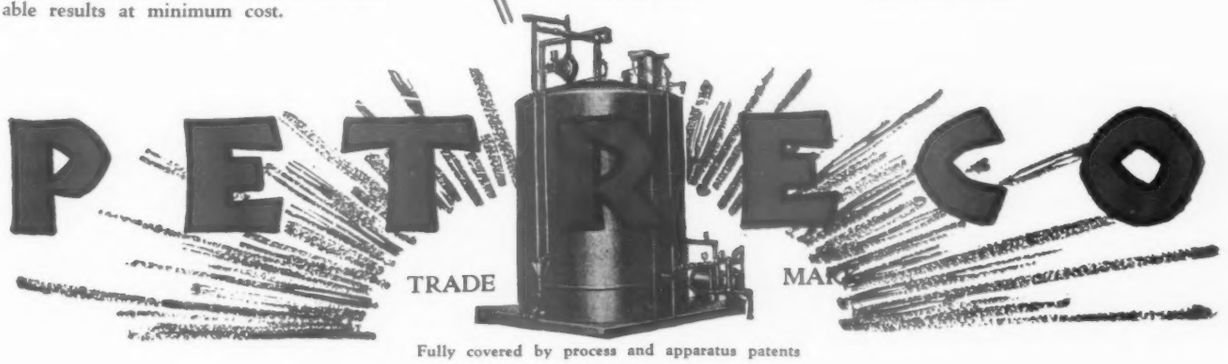

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time particularly when it is realized that such control cannot be exercised under highly competitive methods. Results of gas control in the Ventura field strongly support this view. Certainly repressuring under unit operation could be counted on to make up any losses that might be suffered through wider spacing and if experience to date is a criterion, control of original gas energy together with repressuring should actually result in ultimate yields of oil in excess of those under the most competitive spacing programs.

The storing in sands of surplus dry gas that ordinarily would be blown to the air, and the timing of its recovery with market demands is also an extremely important source of additional revenue that can be secured under unit operation. During the past two and one-half years, some 283,383,525,000 cubic feet of gas was produced in Santa Fe Springs, chiefly as flush production from the deep zones. Of this 28,850,546,000 cubic feet was sold and 176,976,024,000 cubic feet or six times as much was wasted. If this wasted gas had been stored and allowance made for shrinkage, plant fuel and incomplete recovery, a total of 50 per cent or 88,458,000,000 cubic feet should have been available for sale in future years. An additional revenue of $8,849,000 would have accrued to operators from this source. It is estimated moreover that this stored gas upon recovery, would have yielded $11,893,000 worth of natural gasoline which it would strip from oil wet sands. These estimated additional revenues from gas and gasoline are equivalent to about 12 per cent of the estimated value of the oil produced. Stated in another way operators could have suffered a loss of 12 per cent in ultimate oil recovery and still have equalled their actual income meanwhile enjoying the benefits of a stabilized market and as shown by Mr. Van Couvering, a tremendous saving in expense.

Revenues Affected

Revenues from production should be favorably affected because of the possibility of regulating the supply of oil to meet the demands and, therefore, maintenance of a reasonable price for oil. It should be mentioned, however, that application of the discount factor seriously affects the present worth of an oil property if the time of recovery of oil and gas is appreciably lengthened as it would be under unit operation in times of overproduction.

Preliminary valuation estimates were prepared for Kettleman Hills North Dome field to determine the possible effect of future price of oil on expected net income and present worth and of the discount factor on present worth under unit and competitive operation. These factors would be unusually important at Kettleman because under competitive operation the indicated large production of light oil would doubtless break the oil market and thus greatly reduce the expected net income. Under unit operation a conservative production of oil and gas would be maintained for many years and while this should result in maintaining reasonable oil prices, it would also emphasize the effect of the discount factor in reducing present worth of the properties. One hypothetical valuation assumed that competitive operation would flood the market with the result that the price of Kettleman oil would be lowered to 50 cents per barrel during seven years of flush production. Using an arbitrary recovery factor of 50,000 barrels per acre, it was found that under these conditions the estimated total net income would amount to $390,000,000 and the present worth of the field after applying the discount factor would be 83 per cent of this $323,000,000. Another valuation was made using the same arbitrary recovery factor but assuming that unit operation would delay recovery to such an extent that 18 years would be required to recover the same amount of oil as would be recovered in seven years under competitive operation. It was also assumed that present prices would be maintained. Under these conditions, the estimated total net income would amount to $875,000,000 and its present worth after applying the discount factor would be 61 per cent of this or $535,000,000. While these figures are from a hypothetical example, they are within the realms of possibility as shown by past history of the oil business. They are interesting because they indicate that a drastic reduction in the price of oil has much greater effect on ultimate earnings than even a pronounced deferment of production.

A comprehensive study was made by James O. Lewis[4] to show the possible results from unit operation as compared to competitive operation in the Cromwell pool, Oklahoma. Lewis points out that the productive sand in structurally high locations in the Cromwell pool originally contained enormous quantities of free gas. Under actual operation, this gas was produced and much of it blown to the air. This not only reduced the pressure and consequently the ultimate recovery from the oil bearing part of the sand in down-dip locations but it also allowed oil that otherwise would have been recovered to migrate into the unsaturated gas sand. In fact, it was estimated that a major part of each barrel of oil drawn into the gas bearing part of the sand was permanently retained there by capillarity.

Under unit operation, fewer wells would have been drilled to define the limits and character of the field, and upon recognizing the problem, a development policy doubtless would have been adopted to prevent the loss of oil into the gas bearing parts of the sand. Also the "operator" would have used the gas and gas pressure to greatest possible advantage in recovering oil. Gas would have been produced at a comparatively slow rate so that it would have lasted several years and a large part of it, therefore, could have been sold to utilities. These factors, obviously, would have greatly increased the ultimate revenues from the field.

Summary of Costs

The following tabulation summarizes Lewis' estimates of the costs and revenues under unit operation as compared to those under competitive operation. It will be noticed that he has shown lower development and production costs under unit operation and greater revenue because of increased oil recovery. This is due partly to better control of gas originally in the sands and partly to repressuring with surplus gas. He states that some revenue was gained from gas and natural gasoline sale but that about $7,500,000 increased revenue would have been realized if gas production had been at more normal rates and the high peak of production avoided.

These estimates show a saving of $14,900,000 in total ex-

	Actual competitive operation	Unitization of working interests only	Complete unitization including royalty interests	Difference in favor unitization working interests	Difference in favor complete unitization
Estimated development expense	$24,000,000	$12,000,000	$ 8,500,000	$12,000,000	$15,500,000
Estimated operating expense..	14,400,000	11,500,000	12,000,000	2,900,000	2,400,000
Estimated total expense (oil)...	$38,400,000	$23,500,000	$20,500,000	$14,900,000	$17,900,000
Estimated income from oil...	$89,000,000	$118,500,000	$148,000,000	$29,500,000	$59,000,000
Estimated expense of recovering oil	38,400,000	23,500,000	20,500,000	14,900,000	17,900,000
Operating profit from oil.....	50,600,000	95,000,000	127,500,000	44,400,000	76,900,000
Estimated increased income from gas and gasoline.....	.....	7,500,000	9,000,000	7,500,000	9,000,000
Estimated total operating profit	$50,600,000	$102,500,000	$136,500,000	$51,900,000	$85,900,000

[4] "Handbook on Unitization of Oil Pools," by Mid-Continent Oil and Gas Association, Tulsa, Oklahoma, pp. 44-55, 1930.

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pense that might have been effected by unitization of the working interests alone in Cromwell pool and an additional saving of $3,000,000 if all royalty holders could have been persuaded to join the plan, thus making possible the elimination of certain unnecessary drilling. Accepting Lewis' estimates of increased recovery of oil due to more efficient control of gas and prevention of migration of oil into dry sands, the increased ultimate operating profits amount to $34,000,000 or 33 per cent under unitization of working interests and $85,900,000 or 170 per cent under complete unitization. While these figures may seem unduly optimistic, still one-half of the increase in profit would have been tremendously important and is entirely within reasonable expectations.

In his paper on Cromwell and Seminole pools, Lewis included a study of the effects of unitization on revenues due the royalty holders. Their benefits come from increased recovery of oil, increased revenue from sales of gas and natural gasoline and from maintenance of normal prices. The following tabulation summarizes the estimates:

	Actual operations	Unitization working int.	Complete unitization
Income from oil at ⅛...	$12,700,000	$16,900,000	$21,150,000
Increased income from gas at ⅛	Unknown	1,000,000	1,250,000
Increased income from gasoline at ⅛ to 1/3..	Unknown	750,000	875,000
Total income	$12,700,000 plus	$18,650,000 plus	$23,275,000 plus

These figures show that royalty owners would have received increased income of $5,100,000 under unitization of working interests as compared with an estimated increase in income of $9,750,000 under complete unitization. The estimated total recovery per acre under competitive methods is 9300 barrels and the value of the lessor's share at $1.85 per barrel is $2150 per acre. The estimated increased income under complete unitization, including lessors' interests, is $1650 per acre or 76 per cent of his otherwise normal revenue.

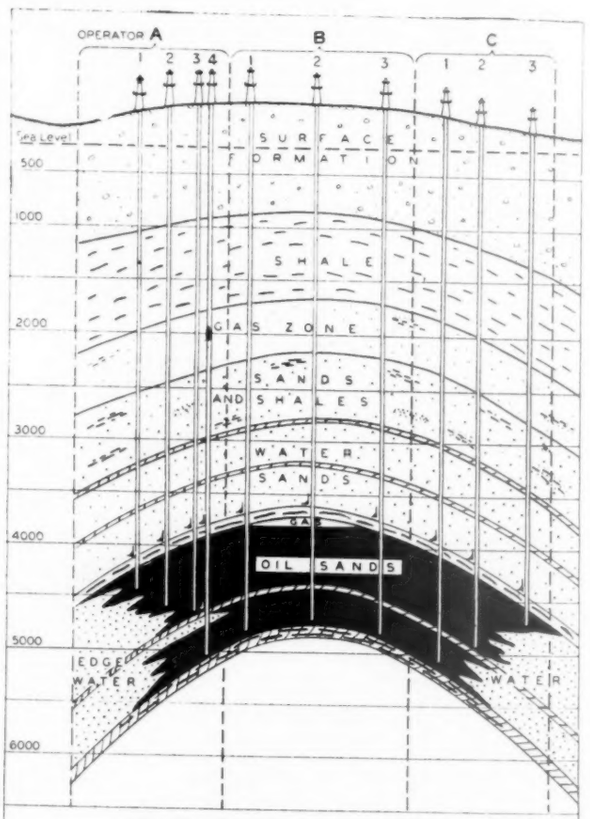
Problems in Developing Unit Plans

Definition of Unit Operation: An exact definition of the term "unit operation" as applied to oil fields is still lacking. Authors of a paper delivered before the American Institute of Mining and Metallurgical Engineers[5] suggest that the term implies that all properties in a field shall be consolidated into a single operating unit while the Unitization Committee of the Mid-Continent Oil & Gas Association states that:[6]

"The term 'Unitization' refers to the practice of unifying the ownership and control of an actual or prospective oil or gas pool by the issuance or assignment of units or undivided interests in the entire area with provision for development and operation by an agent, trustee or committee representing all holders of undivided interests therein."

Inclusion of every property of a given field in a unit plan, where ownership was originally divided, would border on idealism. The only examples of completely "unitized" fields known to the writer are in such countries as Persia, India, Dutch East Indies, Mexico, and in South America. These are hardly fair examples of unit operation as it is known in America, for in the countries mentioned, mineral rights are owned by governments or are under governmental control and a single operator has secured a concession from a single lessor. Accomplishment of unit operation under such circumstances is infinitely more simple than reconciling the views of a large number of lessors and several operators who ordinarily would compete in drilling and producing their properties.

In the writer's opinion, the distinction between unit operation and any other types of cooperative operation lies in the principle of undivided interest in production and revenues and likewise the sharing of the total expense of developing and operating the unitized area. Application of this principle adds greatly to the complexity of the problem of formulating an acceptable plan of unit operation, but in the end, is the one fundamental principle which assures the ends sought in cooperative operation of oil fields, namely, economic development and operation, increased efficiency of recovery of natural resources, prevention of wastes, stability of production, and with these, fairness to rightful owners of oil and gas deposits.



HYPOTHETICAL CROSS SECTION ILLUSTRATING POSSIBLE VARIATIONS IN PRODUCTION BETWEEN THE DIFFERENT PROPERTIES IN A GIVEN FIELD

FIGURE 3

NEXT WEEK

Mr. Swigart's paper will be continued in next week's issue. The final half of the paper deals with the general types of unit plans, members' interest in production, the devisions of capital and operating expense, adjustments of revenues and expenses, protection against outside development, relations with lessors and other problems, pooling gas contracts, and appendix A and B, which are extracts from Article 111 *of the proposed by-laws of the Kettleman Oil Association as submitted September* 20, 1930, *and later eliminated.*

[5]Oliver, Earl, and Umpleby, J. B., "Principles of Unit Operation:" American Institute of Mining and Metallurgical Engineers, 1930.

[6]"Handbook on Unitization of Oil Pools", by Mid-Continent Oil and Gas Association, Tulsa, Oklahoma, p. 15, 1930.

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By L. J. Zoller, *Vice President.*

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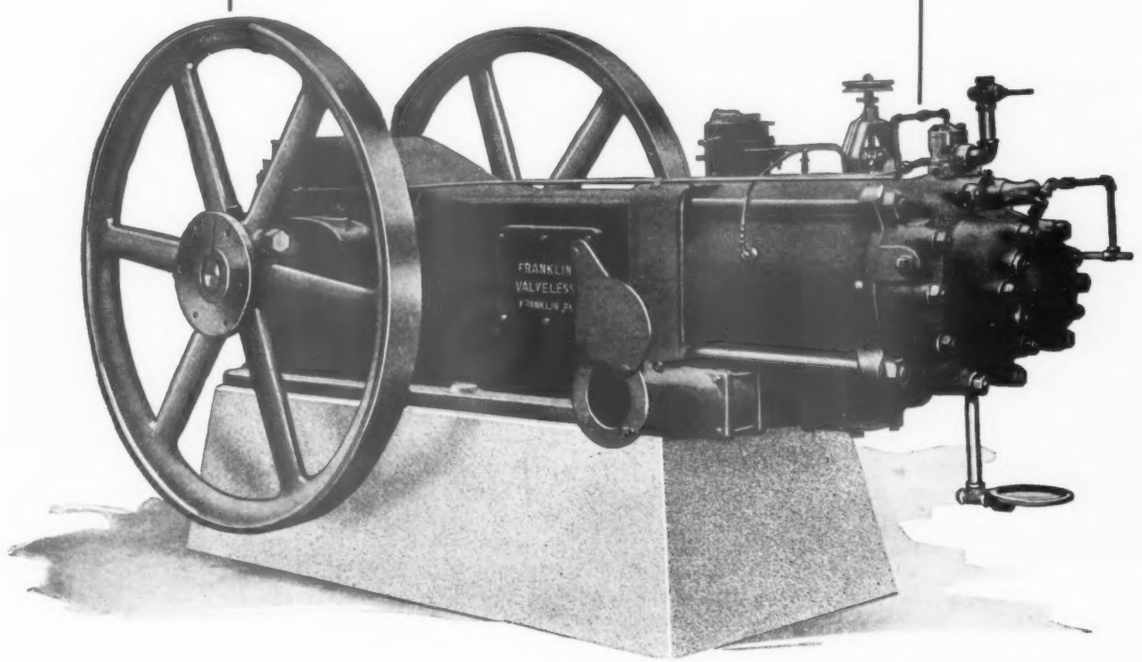


Land and Lease Aspects of Unitization

By JOHN P. WEST
The Prairie Oil & Gas Company, Tulsa

UNIT operation is in line with economic thought and an elaboration of the co-operation and conservation movement. It is an extension of the partnership idea; and is, legally and from all leasing standpoints, sound and practical. With encouragement it will eventually substitute for proration.

Its growth should be fostered by discouragement of other currently used, but non-economic, alternatives. Its expansion in common practice is dependent on the mechanics of contracts and accounting being standardized, certain controversial questions eliminated, and principles of equity defined.

Its future possibilities of expansion are practically unlimited. Simplification to standard practices, under the auspices of the American Petroleum Institute, would make such expansion popular.

This paper was prepared for presentation at Eleventh Annual Meeting, American Petroleum Institute, at Chicago, November 12, 1930.

INDUSTRIAL evolution of the past decade has distinctly trended toward economic cooperation. The oil business evidences this trend in the cooperative efforts that have resulted in the widespread movements in the orderly restriction of production of crude oil to available outlets, the reduction or avoidance of wasteful above-ground storage, the curtailment of throughput in refinery operations, and the agreements embodied in a code of ethics among marketers. Each of these movements has added its quota of results in stabilization of the industry, the cause of true conservation, and elimination of waste in efforts and resources.

Unit operation, commencing as it does at the inception of development, can and will do more than these other efforts automatically to effect conservation and prevent actual as well as economic waste, build up natural reserves of crude oil to assure adequate normal supply, and insure the nation in any emergency. Through judiciously planned drilling, more extensive utilizing of the energy of natural gas pressures, and economies of overhead expenses, recoveries can be increased, outlays decreased, and development regulated to avoid duplication of effort, resulting in enormously increased earnings to all joint owners in a project. The balance sheets of actual examples of unit operations prove these contentions, and conclusively show that, at any given time-stage of the field operations of a unit project, the ledgers will show credits in dollars and cents that are larger than those which could be normally postulated under severalty ownership.

Situation Needs Attention

No optimist but will concede that the oil business is one of the sick industries of the present world-wide depression. The palliatives of proration—emptying of storage and reduction of throughputs—have prevented the debacle; but unrestricted drilling without proper safeguards has pyramided the evil of wasteful overproduction.

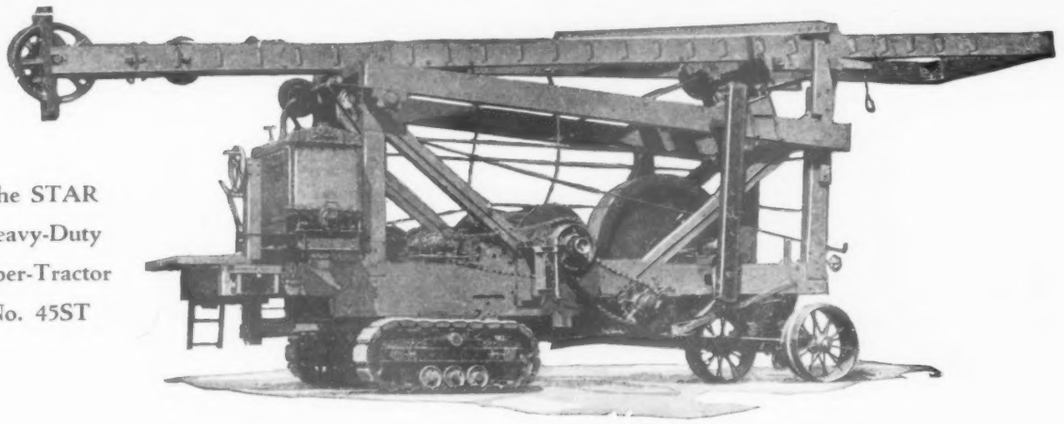
Close students of the situation believe that it will be years before the expedient of proration can be safely abandoned, if excessive waste is to be avoided. The most advanced thought of the industry even holds that curtailment is with us to remain, not as ruthless proration of production, but as sane development of proven, though unexploited, structures where reserves, built up in scientifically worked out unit operations in reservoirs of Nature's own making, are held as warranty of national safety and the continued industrial prosperity of our country. Conservation of this character is not only soundly profitable, but unit operation is the fundamental panacea to effect automatically a cessation of the wild scramble for oil and the criminal squandering of a great national resource caused by unrestrained drilling.

A point too little stressed in any discussion of unit operation is its fundamental simplicity. Perhaps the ominous sound of the word "unitization" has obscured the underlying principles involved. As a matter of fact, unit operation is simply a multiple partnership—and a partnership is the most elemental of economic relations. There is no principle involved in unit operation that is not usual to a normal partnership in a lease development program. There is no single particle of unit operation, as practiced, that transcends any of the ample legal sanctions of common law, or statutory law both state and federal, as applied to partnerships. There are no prerogatives granted in unit operation contracts, as currently used, that are not customarily ceded as between partners in lease operations. There are no terms in any of the approved forms of unitization contracts that legally contradict the lease terms of forms in generally accepted use. Unit operation, in actual practice, can, and does, carry out all the practices of ordinary partnership operations to safeguard all the rights reserved between co-partners as well as those rights reserved under the normal lease to the lessors and royalty owners.

Types of Operation

For purposes of analysis, unit operation may be grouped into three types. There is the example of where a single individual or company acquires a block of leases and then parcels out fractional undivided interests in the entire area and in the well drilled. The second type is the instance of a group of leases held in severalty ownership where, by mutual exchange of fractional assignments, each operator acquires an undivided interest in each of the leases of the group in proportion to the size his lease bears to the total area of the group to be pooled. Third, there is the unit plan which contemplates merging the severalty ownership of producing and semi-proven leases into a common ownership of undivided interest of the area grouped.

A consideration of types of unit operation must also comprehend an understanding of types of leases. Leases divide into two major types: governmental and commercial. Since our consideration here does not extend to foreign operations, "governmental," as we use the term, includes leases granted and approved by the federal government, the state governments, state institutions, and county and municipal agencies. The terms of such leases are largely dictated by statutory enactments. Compared to this group are the "commercial leases,"



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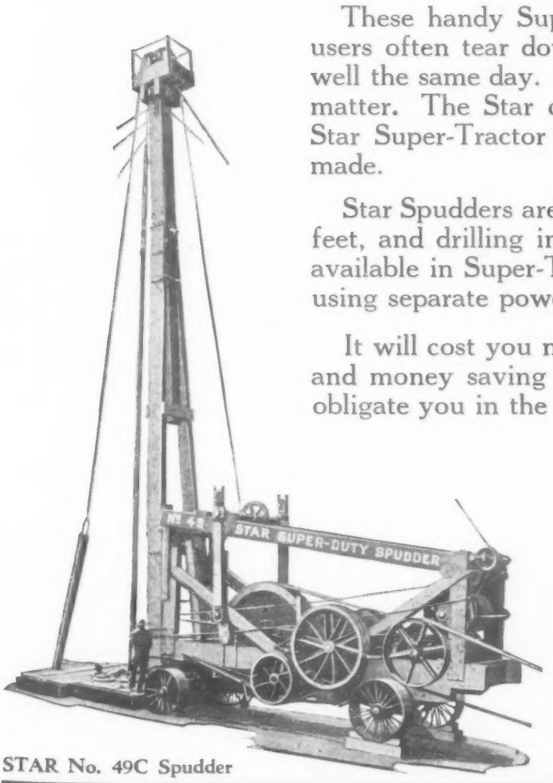

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the terms of which are in the nature of private contracts. However, oil field leasing practice is so standardized that the enabling acts of government in setting up the types of leases granted on public lands have, broadly speaking, followed the conditions and general terms of the most approved forms of commercial leases. As a result, both types of leases, from the standpoint of the obligations contained in the terms are suitable for grouping into unit operations. Until recently many concerns hesitated, from a legal viewpoint, to submit to unit operation leases acquired from government. However, the broad endorsement of the theory and practice of unit operation by the Federal Oil Conservation Board and the recent enactment by the Senate of the United States of a bill specifically to sanction cooperative development have largely removed these hesitancies to approve unit operation.

Stages of Progress

For any economic doctrine to achieve success in general application of its principles to practice, there are several stages of progress. Its financial success must be demonstrated; it must have sound legal endorsement; its results must be widely advertised; and last, but not least, it must be given popular appeal. As to the first, it is unnecessary to detail the numerous examples of unit operation the results of which, needless to say, have amply proved the claims made that the community of interest itself automatically regulates the development and production activities into the most soundly economic methods, which show increased profits from the very beginning of operations. With specific sanction of the government, the legality of unit operation is no longer hazarded. With the plan endorsed by the American Petroleum Institute, advertised in a descriptive book prepared by the Mid-Continent Oil & Gas Association, and its individual successes widely discussed in the various trade journals, there remains the one important duty of its sponsors, and that is to popularize it to where it becomes the method in demand for conducting exploration for and exploitation of, new oil fields.

The encouragement of unit operation will of necessity consist of continued study and the advertising of its results; but it can be more directly fostered by a consistent discouragement of land-practice alternatives. Until two years ago, it was common practice of promotion enterprises to finance themselves by the selling of "spreads" around a well to be drilled. This practice has already been largely discontinued in favor of unitizing blocks and selling undivided interests on a unit basis. But a more direct emphasis should be placed on discouraging selling of spread acreage or acreage sold subject to a well; and, automatically, unit operation is encouraged as the only available alternative. Dry hole contributions and acreage donations have promoted the wells that have opened up more than one-half of our pools to unrestrained drilling. Absolute elimination of dry hole contributions, or acreage contributions, as a practice of the industry will leave unit operation the only practical alternative on which costs of expensive testing can be shared.

Contract Forms

While these negative influences will have considerable effect, there are certain very positive steps that must be taken by the industry to encourage the practice. As already stated, unit operation is simply a partnership, and in any given case it is just that; but the complicating factor is that there are many kinds of partnership. There are probably no two concerns whose partnership contracts do not differ in minor ways. Essentially they both have fair contracts, and in actual application there would likely be very little difference; but both, through long practical usage, have come to prefer their own personal contracts. The essential need in encouragement of unit operation is for contracts that are universally accepted. Land departments need standard, endorsed, and approved forms of contracts. Those who have worked on committees on standardization of oil field equipment will recall the problems with which they were confronted, and the land departments of companies are confronted with the same type of problem in the miscellany of individual unit operation contracts which make of each transaction a separate problem of persuasion. While recognizing each individual concern's preferences in simple partnership, just as each individual company prefers its own lease forms, the need is for forms of contracts for unit operation as generally accepted in the "Producers 88" lease form, so that a common meeting ground for concerns to conduct negotiations for unit operation will be had.

The American Petroleum Institute could do no greater direct service to encourage unit operation than to formulate and secure endorsement from its members of standard forms of unit operation contracts and to have them printed and issued under the Institute hallmark.

These comments on contract forms naturally include as part of these contracts a standard schedule of accounting. While no two companies will have absolutely identical systems, the principles of accounting are universal, and a standard schedule should be also adopted under which the unit operations of the future can be administered on a uniform basis.

It would be very unjust at this juncture not to recognize the splendid efforts of the committee of the Mid-Continent Oil and Gas Association to suggest unit operation contracts and an accounting schedule in their *Handbook on Unitization of Oil Pools*. It has been widely distributed, and already has done a great deal to explain and popularize unit operation. These contracts and accounting schedules, however, were written as suggestions, and have, therefore, not solved the problem for the land man, as the modifications each company insists on in practice are such that agreement is still a matter of individual persuasion. To popularize unit operation, it is essential that the mechanics of its functioning be simplified to where it compares favorably with a lease purchase, drilling contract, or purchase of a spread. The only way this can be approximated is by adoption of standard practice. The quibbles of legal phraseology and technicalities of preferential accounting must be overridden by the broader vision of executives in a direct sanction of certain approved forms sponsored by the Institute. Unit operation must be grounded on foundations that will change it from an expedient to the accepted mode to insure its largest success.

Controversial Questions

There are only two or three really controversial questions with regard to unit operation on which there is a principle of importance at stake. One on which there is sincere difference of views is: "Should leases once pooled, on completion of the well as a failure, remain as partnership leases; or should they, by re-exchange of assignments, revert to severalty ownership." One side maintains that the operation for which the grouping was formed, being completed and abandoned, the purpose of the unit has been served, and each thereafter should be vested with its severalty ownership to continue as it may judge expedient.

In contrast, the other side holds that each well so drilled, even if a dry hole, may develop information of such a definite nature as to reflect favorably on some particular portion of the block. The partnership, consequently, having paid for the benefits of the test, should remain intact until all leases in the block are disposed of by joint release or by individual withdrawals. It seems that the latter standpoint, in view of cases of production later developed on dissolved pooled acreage, is far more sound and consonant with true equity. Another somewhat debated point is: "What may be considered as individual purchase of leases or royalty in the vicinity of the unit operation? And what should be consid-

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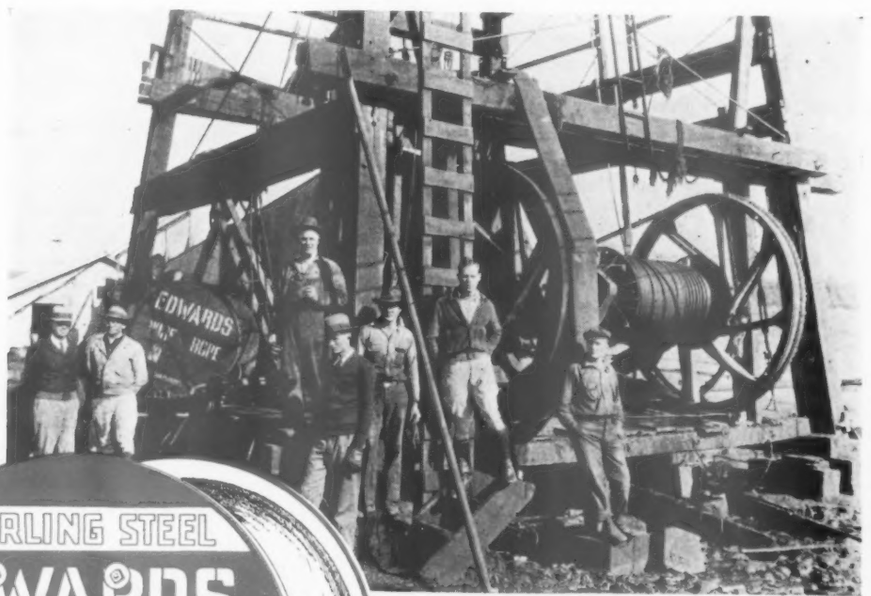

Edwards Pumping Line is used on this Cosden and Company well, at Clearview, Oklahoma. From left to right, the men in the picture are: A. A. Wright; G. A. Bumgardner, Superintendent; J. J. Mauch, Pumper; C. B. Whitfield; L. M. Robinson; L. H. Clack, Bookkeeper; W. H. McCoy, Pumper. Ask these men how it works, then let us tell you why we make a Specific Purpose Pumping Line.

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ered a partnership acquisition?" The expediencies of leasing often require sudden decisions and quick purchases, and individual action must be taken. Such cases have no set rules However, the principle may well hold that individual purchases, whether royalty or lease, by a partner in an area reflected on by the unit operation should always be offered to the other unit holders, each partner being allowed to participate up to his proportion and the originator absorbing the proportion rejected by any of the partners.

Just what lease or royalty may be classified as "reflected on" would have to be established by local conditions. Probably this principle may become even more complicated and controversial where concerns own subsidiary royalty investment companies, or where the rules of a company permit its employees latitude for royalty investments there is no doubt that fear of limitation of its own activities are those of its employees or affiliated companies, has had its detering influence in securing hearty endorsement by some concerns of unit operations.

Small Operator Benefits

There has been one deceptive fear that has kept this movement from the success it deserves. The smaller operator has sometimes felt that in unit operation there is a loss of individuality and the personal protection that he has always jealously guarded. A study of actual examples will prove that such is not the case; instead, unit operation is the real salvation of the marginal operators through increased earnings from these projects. Under fractional interests, his smaller purse may be more broadly applied to diversify his investments; while the division of burden will lighten the enormous expenditures demanded in outlays for modern deep drilling and expenses of continuous development.

True, for all of us, the oil "game" is over, but in the oil industry the opportunities of each are enhanced.

Disagreements, up to this stage of the development of unit operation, have been decided by mutual adjustments; but in a broader application of this type of operation it can be expected that matters involving principles will, from time to time, come into dissension. In anticipation of such occasions, along with standard contracts and also standard usage, it would be extremely timely for the committee of the American Petroleum Institute studying unit operation to define and secure a membership sanction of certain general principles to apply to such usages. It is probable that, as an outgrowth of such a move, this committee, or a sub-committee thereof, may ultimately evolve to function as an informal umpire as between partners in disputes on question of such principles.

Future Expansion

No picture of unit operation would be quite complete without a sketch of its prospects in future expansions. With the sound fundamental legal and practical basis of partnership to build on, there is no inherent limit of size of area, or numbers of partners, to inhibit the expansion and application of this form of development. Just as with any growth that is sound, whether it be buildings that tower towards the hundred-story mark or wells that are even now planning depths that reach to ten thousand feet, we may expect unit operation, which now merely contemplates the grouping of a few leases, to grow into cooperative efforts that will scientifically explore and test larger and larger areas with increasing numbers of partners in such projects. There are certain fundamentals, however, that must be recognized and that must become a part of the fabric of such large unit operation to insure its popularity. The principle of distribution of responsibility and management of various phases of these projects must be inaugurated; some distribution of the geological, leasing and title work, drilling, operating, pipe-lining, and marketing duties must be worked out so that partners in the larger unit projects may have actual participation in the work of these projects with which to occupy parts of their own particular organizations. Such division of duty would not appreciably increase overhead, but would serve to reconcile many now reluctant to cooperate in an endorsement and application of the practice. The principle of equality of opportunity of each of the partners to profit by the collateral investments in royalty, or additional leases, must be sedulously protected, and the highest of ethical standards maintained in both the letter and spirit of these agreements. Unit operation is gradually building its own by-laws of procedure in these matters, but those who have the trusteeship in such operations now being conducted should lay the foundation stones of future traditions of administration and interpretation in the broadest spirit of fair play. They must pioneer not only the principles that are proving to the industry at large that unit operation is the most soundly profitable form of development, but also that under this form of exploration the individual operator has a greater opportunity to prosper and build the larger success in business to which he is entitled.

The time has come for the lessons of experience to be reduced from informal precedents into a group of definitely set out obligations and enunciated principles upon which the future may be built with uniform standards. This task of providing the mechanics of standard contracts and accounting, and of establishing the equities of conduct to govern the usages as between unit partners, is one to which the American Petroleum Institute should lend the sanction of its prestige.

Panhandle Operators Air Grievances at Meeting

(*Continued from page 24*)

John R. Evans, petroleum engineer, Midwest Exploration Company, Amarillo, was cross examined as an expert witness on operating conditions. He stated that the greatest underground waste now occurring in the Panhandle is on leases in vicinity of the properties that are produced at 100 per cent capacity by reason of proration injunctions. When questioned in regard to the use of air and gas lift methods to flow wells, he evaded making a definite statement as to whether such practices were used to stimulate oil production, but did state that such methods of lifting the fluid to the surface was cheaper.

It is general knowledge among oil operators in the Panhandle that introduction of natural gas into "dead" wells, and some that will only flow a small volume of fluid daily, is accounting for a large percentage of the 122,452 barrels of potential production credited to the 1980 wells in the district. However, the leaders in proration efforts are enjoying full benefits from the artificial method of lifting the fluid to the surface, and are inclined to sidetrack the issue.

Suggests Further Limitation

Limitation of production on all wells started in the district since August 27 to 50 barrels daily for 90 days was suggested by Umpire Cocoran as a solution to the problem of eliminating unnecessary drilling. Corcoran stated that he favored discontinuing the fixing of production allowance at a certain maximum level, and prorate to actual nominations of purchasers. He also recommended that proration be extended until March in order to eliminate as much as possible the waste of production below and above ground should production not be withdrawn ratably from all wells.

Corcoran reviewed his efforts to obtain market relief for completed wells in the district that are without pipe line connections, and read replies received from various purchasers and pipe line companies.

The clean drilled hole is the straightest!

Drilling straight hole is dependable upon many factors. The most important of these is the drilling bit which must be of the best materials and of correct design. It is what occurs at the bottom of the hole rather than what occurs at the top which determines in most cases whether a hole is straight or crooked.

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Five circulation outlets have been provided in the Type X Bit which give maximum washing action over the cutting edges. The center hole plays a wash directly on the pilot blades, while the remaining holes circulate fluid which keeps the cutter blades from balling up or heating.

Alco Bits drill faster, cleaner, straighter, and longer because they are structurally right.

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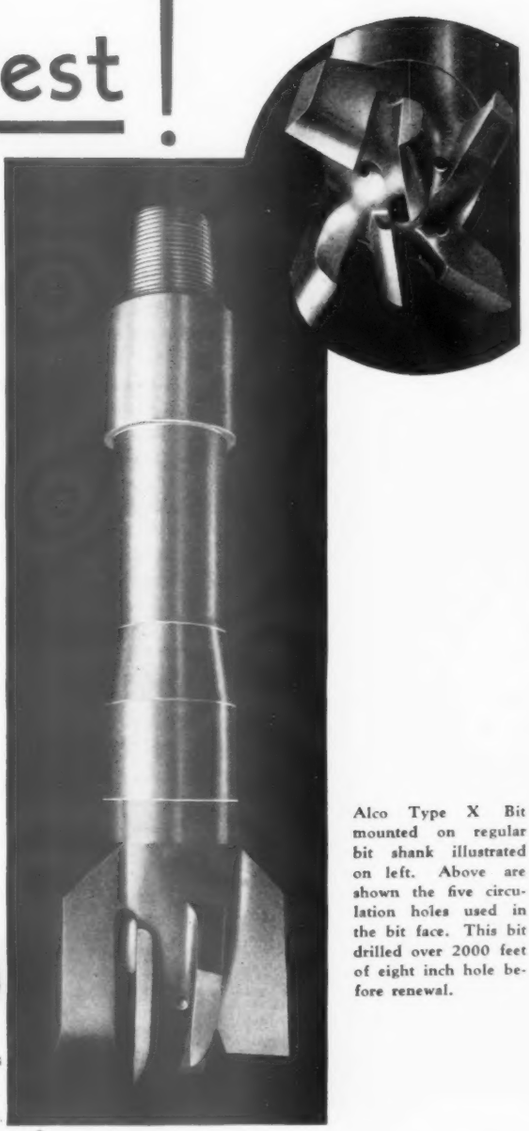
TYPE X BIT



Alco Type X Bit mounted on regular bit shank illustrated on left. Above are shown the five circulation holes used in the bit face. This bit drilled over 2000 feet of eight inch hole before renewal.

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WORLD PETROLEUM IN REVIEW

Prospecting And Drilling Tiran, Albania.—Exploitation of oil formations in this state have shown very poor results with only two of the four companies operating finding oil in any appreciable quantities. Anglo-Persian Company, Azienda Italiana Petroli Albania, Societa Italiana Minera Selenica, and Syndicat Franco-Albanias are the companies that have made any extensive search for oil, the first two being the only ones that have found any justifiable amount of production. Anglo-Persian Company has 10 wells in the Patos district, only five of which have shown any tendency toward production and the oil in those cases has been of a very heavy nature. Azienda Italiana has drilled four wells in the Devoll district that have shown gas and a medium gravity oil.

The oil has been found only in the upper Miocene, and then only when there were surface showings of oil. All other holes that have been drilled where there were no surface shows have proved dry holes. There appears to be no uniform oil horizons and the oil in the upper Miocene is not continuous. The increase of thickness of the late tertiary strata as it approaches the coastline indicates that the oil-bearing strata are at unattainable depths.

Petroleum Deposits Reported Oslo, Norway.—The return to this country of a joint British and American expedition that has been to East Greenland marks the beginning of reports that ample evidences of oil deposits have been discovered near Franz Josef Land. No details of this discovery have been disclosed by the expedition.

THE PICTURE—Oil seepage at Naft Khaneh, near the Iraq-Persian border. Dark patches near the base of escarpment indicates oil exudations.

Japanese Petroleum Resources Tokyo, Japan.—Reports of the Imperial Geological Survey show the three producing fields to be located in Honshu Island, Hokkaido, and Ishikari. Development of the Ishikari oil field started about 1887 but such slow progress has been made in its development that it is believed only one-third of the actual development of the field has been accomplished. The main oil-producing sand of this field is a fine sandstone which lies at a depth of about 1700 feet and there is also a shallower sand which has been found at a depth of 650 feet.

There are many other fields besides the three mentioned above which are producing oil in small quantities. There are also may promising fields which are being subsidized by the government and are being prospected by individuals and oil companies.

Weekly Crude Production Mexico City, Mexico.—Production of crude oil for the week ended November 1, for the Panuco and Tuxpam districts, averaged 77,143 barrels daily. This production shows a slight decrease from the week before when an average of 79,286 barrels daily was produced. The output of light oil averaged 30,714 barrels daily and heavy oil averaged 46,429 barrels daily.

Producers Association Formed Sydney, Australia.—The formation recently of a producers' association in the State of Victoria will probably lead to further promotion in the co-operation of oil prospecting in this country. Exchange of information will insure less expenditures with better results by all the com-

If you are drilling a crooked well

The straightest oil well ever drilled is not exactly vertical. But the straighter the hole, the better the well. Angled and deflecting fault formations plus depth are factors contributing to crooked hole. You need every assistance you can get in drilling your well as straight as possible. That's where Bettis Drill Stabilizers can help you out. Even if you have your well down a few thousand feet with a kink here and there in the vertical you can go a long ways toward straightening out the trouble by equipping the string in open formation with Bettis Drill Stabilizers and by using Bettis Protectors on the pipe within the casing. The Stabilizers give the bit GUIDANCE, keeping it right in the center. The power that you will save and the increased speed in drilling will go a long ways toward paying the installation costs. Of course the logical time to equip your string with Bettis protection is in the beginning—but it is never too late to place these efficient rubber cushions to work. With stocks carried in easy access of almost every rotary field you can obtain delivery in a jiffy.

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Write a plain, simple statement or letter telling of your experience or anyone else's experience with Bettis Protectors. Not over 300 words. Mail it promptly and you may win one of the 20 cash prizes we are offering. Contest closes December 31, 1930.

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panies that are prospecting for petroleum and oil-bearing formations. A bulletin devoted to the activities of the members of the association will be issued periodically giving the status of the petroleum industry in the State of Victoria. Oil has been found so far in only small quantities in this district but it is hoped with this new organization will facilitate the location of new producing areas with profitable results.

Unitization Plan Adopted Mexico, City, Mexico.—The adoption of the Unitization Plan on the 8th of November by the Government authorizes the adoption of this system for oil fields. The decree is explained as being a step taken in the interests of conservation, and permits two or more concessionaires to explore and exploit oil fields jointly under Government permit.

Petroleum Exploration Initiated Rio de Janeiro, Brazil.—Exploration for oil in the State of Amazonas will be initiated within a short time by three foreign companies. The state government has signed contracts with Amazon Corporation, American-Brazilian Exploration Company, and Canadian-Amazon Company for the exploration of certain areas in this district.

Reported Transfer Of Monopoly Madrid, Spain.—Reports of observers in this city have initiated the belief that negotiations are under way for a partial or complete transfer of the Spanish oil monopoly to a foreign company. It is also believed that discussions have given rise to a plan for the construction of a large refinery at Bilboa.

Petroleum Resources And Developments Wellington, New Zealand.—Petroleum production in this country to the first of November has not been much over 50,000 barrels. The production has been small and flow of all the producing wells has been intermittent. Twenty-six wells have been drilled, some to a depth of over 6,000 feet and more wells are going down with further evidences of prospecting in several parts of the state.

New Oil Strike Krasnovodsk, U. S. S. R.—Oil prospecting in the region of Neftedag in the Turkmen Republic, carried on for over a year, has resulted in the discovery of oil at a depth of approximately 790 feet, by Turkmenneft Trust.

New Oil Strike Located Moscow, U. S. S. R.—Reports to the Geological Prospecting Institute of the petroleum industry received recently show that a shallow well has been found in the Keslervoski region, of the Kuban, Caucasus. The oil in this well is very light and is similar to that found in another well previously located in the Kuban.

Activity Brings New Investments Winnipeg, Canada.—The extraordinary amount of activity in the Turner Valley, Red Coulee, Ribstone and Wainright fields has caused numerous investments by smaller and outside companies.

Prior to this time most of the production in the fields has been found by Imperial Oils, Ltd. In 1924 production of the Turner Valley field was only 844 barrels with 183,491 barrels for the following year while production for 1929 amounted to 489,000 barrels. Some of the capital being invested in these fields is of British origin and the other is composed of American investments. Toronto, Montreal, New York, Boston and Texas-California interests constitute the larger organizations investing in the Alberta oil prospects.

Gas Conservation Offered by Ames as Cure of Industry's Ills

(*Continued from page 25*)

revenue which, to a large extent, is based on a percentage production tax by which these states participate in the better prices for crude.

"Finally, it would be a genuine conservation movement, and go far toward preventing immediate overproduction and insuring maximum ultimate recovery. Such legislation, of course, should be accompanied by ratable taking requirements, which would insure to all producers a proportionate share of the outlet for both gas and oil, and supplement, without superseding, existing statutes and the efforts now being made by the industry to correct existing evils.

"For many years the governments of the oil producing states have been vitally interested in this problem and conservation legislation extends over a period of 40 years. During the past six years the Federal Oil Conservation Board has given a national impetus to the movement and has done much toward correlating the activities of the various states and of the industry itself. Much of the fine spirit of cooperation now found amongst the oil producers is the direct result of the activities of the Federal Oil Conservation Board, but we must always bear in mind that the primary object of these public agencies is the conservation of our natural resources. They rightly believe that a genuine policy of conservation is important to the nation; they recognize that the present waste hastens the approach of the day when our oil and gas deposits will be exhausted. It cannot be too often repeated that the oil and gas resources of the nation are irreplaceable; that when they are once exhausted they are permanently exhausted, and that the nation and the states, as well as the industry, should do everything within their power to conserve them, not merely in order that those of us now engaged in the business may make a profit but that future generations may not be deprived of their use."

Blakeslee Now With A. P. I.

Chicago.—H. N. Blakeslee has been added to the staff of the American Petroleum Institute as safety engineer and will be stationed at the Dallas office of the Institute after January 1, 1931. Mr. Blakeslee's appointment follows the decision of the directors of the American Petroleum Institute to include the activities of a safety department in the work of the Institute.

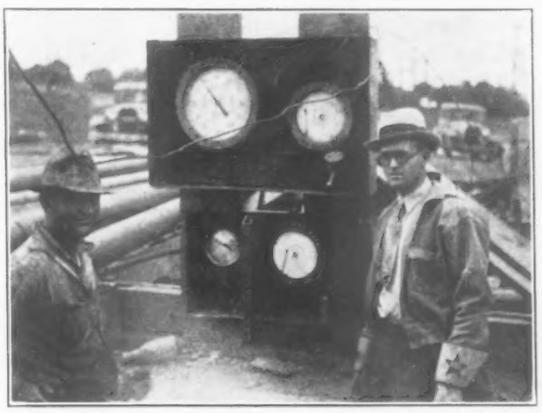
H. N. Blakeslee
A. P. I. Safety Engineer

Since May, 1927, Mr. Blakeslee has been secretary of the petroleum division of the National Safety Council, with offices at Chicago. Prior to his work with the National Safety Council he was safety engineer in the industrial relations department of Associated Oil Company, in California, beginning this work in March, 1917.

After completing his education at the University of Missouri, Mr. Blakeslee entered the petroleum industry in 1911, at Maricopa, California, with the old Kern Trading Oil Company.

MARTIN-DECKER MUD PUMP GAUGE

I. T. I. O. Well being drilled by Mandeville-Thompson, Contractors.



Martin-Decker Weight Indicator Installation above; Mud Pump Gauge with Recorder below.

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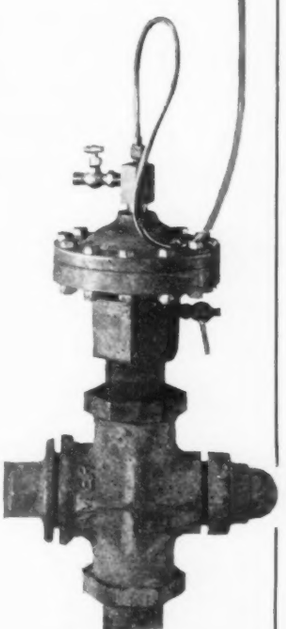
Gauge and Recorder may be located at any convenient point.



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Through this service numerous Companies have saved thousands and thousands of dollars, in equipment, drilling operations, and production. It has enabled them to save many junked holes, economically reach more profitable sands, and salvage many hundred feet of pipe, drill stem and screen.

There is an Abercrombie Cutting Tool for every cutting job. The Inside Cutting tool for cutting and removing casing, liner and screens; the Outside Cutting Tool to cut and remove stuck drill stem.

All of these tools are rented on a contract basis. They are operated by highly skilled operators whose years of drilling and cutting experience assure you a most satisfactory and economical method of cleaning out wells.

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Big Reductions in Crude Runs Recommended in Report

(Continued from page 23)

crude run to stills, exports and crude directly used. It would be supplied both from domestic and imported crudes. The current demand for crude for all purposes is about 2,531,000 barrels per day. In the statistical data as shown and estimated, crude runs to stills for the period at an average rate of 2,271,000, which compares with current rate of 2,410,000 barrels per day. The current total demand for crude oil is supplied at the September, 1930, rate, the latest available, by imported crude of 194,300 barrels per day. Any reduction which might occur in foreign production would naturally effect a corresponding increase in the domestic crude demand.

Gasoline Imports

"The sub-committee's estimate of gasoline imports over the six months period under discussion of 9,200,000 barrels is approximately equivalent to 34,074,000 barrels of foreign crude oil; the estimate mentioned imports of 28,875,000 barrels of foreign crude. The total foreign crude equivalent of these items is 62,949,000 barrels or 345,870 barrels daily. This quantity in terms of domestic crude oil is equal during the six months period to 39,251,000 barrels or 215,660 barrels per day. The foregoing quantities are based on potential gasoline yield, including that by cracking, from each class of crude.

"During the first nine months of 1930, the imported crude and gasoline amounted to an equivalent in domestic crude of 60,485,000 barrels.

"During the same nine months period all exported domestic crude and gasoline amounted to an equivalent in domestic crude of 136,730,000 barrels. There was, therefore, a net export of an equivalent of 76,250,000 barrels of domestic crude oil or a daily average net export of 179,300 barrels.

"It may appear to you that the conclusion of the committee is at variance with that of the Committee on Petroleum Economics of the Federal Oil Conservation Board in that the latter recognizes an aggregate stock of gasoline in storage at refineries of 45,000,000 barrels as reasonable under existing circumstances, but we call attention to the fact that said committee names 40,000,000 barrels as a desirable inventory. The Institute has ascertained recently, through replies to a questionnaire from refiners of the country, that the minimum aggregate essential working stock of gasoline required is 27,000,000 barrels. The usual decline from the maximum stock on hand about April 1, to the minimum about October 1, is 13,000,000 barrels.

"The total of stocks at their peak should not exceed the sum of these figures, or 40,000,000 barrels. Therefore, there does not appear to exist any difference of opinion between the two committees. This committee concurs in the report made to the Federal Oil Conservation Board by its own committee in every substantial respect.

Replies received to the Institute's questionnaire from about 76 per cent of the total refining capacity of the country develop the startling fact that all refiners collectively appear to be contemplating an aggregate run to stills during the period under consideration of approximately 491,000,000 barrels (2,696,000 per day) of crude oil; and the accumulation in storage of a total of 52,127,000 barrels of gasoline by April 1, 1931. These crude consumption and gasoline stock figures cannot be reconciled with one another except by either of two assumptions, namely: That the refiners are expecting a gasoline demand of 235,000,000 barrels or 14.25 per cent above one year ago, or that they expect to reduce gasoline yields, thereby increasing largely fuel oil production with resultant over-production causing an excessive accumulation of stocks of that product.

SPECIAL COMMITTEE ON THE ECONOMIC SITUATION

J. Edgar Pew, chairman.
Howard Bennette
Paul N. Boggs (not present)
W. N. Davis
Wirt Franklin
C. C. Herndon (not present)
R. C. Holmes
W. M. Irish
E. W. Isom
George Legh-Jones
E. T. Moore (not present)
Underwood Nazro (not present)
E. J. Sadler
E. G. Seubert
B. H. Stephens (not present)

STATISTICAL SUB-COMMITTEE

John D. Gill, chairman
Fred Van Covern, secretary
O. S. Ambrose
H. K. Davis
David Donoghue (not present)
Clarel B. Mapes
E. P. Salisbury
Earl Wagy

Comments on the Results of Recent Survey by Questionnaire

"Replies received in answer to the recent A. P. I. Questionnaire from companies representing 75.8 per cent of the total of potential refining capacity of the country, indicate that refiners contemplate running 490,603,000 barrels of crude oil to stills during the six months period ending April 1, 1931. This is at the rate of 2,696,000 barrels each day. Applying the same yields as are used elsewhere in this report and also the estimate of imports of gasoline, this amount of crude will make available 248,686,000 barrels of gasoline.

"The Bureau of Mines reports that there were 38,242,000 barrels of gasoline at refiners on October 1, 1930. The returns from refiners indicate that they contemplate having a total of 52,127,000 barrels of gasoline on hand at refin-

eries on April 1, 1931, or an addition to October 1, 1930, storage of 13,885,000 during the six months' period. Subtracting the 13,885,000 barrels which they expect to add to storage from the 248,686,000 barrels of gasoline which the above crude runs will make available, it immediately becomes apparent that the refining industry is anticipating a demand for a total of 234,801,000 barrels, or an increase of 14.25 per cent over the demand during the same period of 1929-1930. This is in direct contrast with the sub-committee's estimate of a 1.2 per cent increase in total demand over the same period.

"On the other hand, refiners may have contemplated that the yield of gasoline from crude would be reduced from 43.3 per cent to 38.4 per cent.

"The combination of these two is also possible.

"However, the sub-committee thinks all of the foregoing unlikely and that if the 490,603,000 barrels of crude oil are actually run into stills there will be created an over-supply of gasoline to the extent of 40,686,000 barrels which when added to the 38,242,000 barrels on hand on October 1, 1930, indicate gasoline stocks at refineries as of April 1, 1931, of 78,928,000 barrels.

"The results of running 490,603,000 barrels of crude oil under conditions of the maximum yield of fuel oil consistent with the minimum over-all yield of gasoline, 38.4 per cent as shown above, would be a refinery output East of California of 140,000,000 barrels of gas and fuel oil, a total supply of 158,000,000 barrels, and assuming a demand of 146,000,0000 barrels, an accumulation of gas and fuel oil in storage of 12,000,000 barrels. Contrasted to such accumulation the industry during corresponding six months periods experiences a withdrawal from storage of approximately 12,000,000 barrels.

"The details of the foregoing are presented in the following tables:

Possible Gasoline Situation

Crude Runs to Stills—490,603,000 barrels	Barrels
Applying a Straight run yield of 24.1%	118,235,000
Cracked yield of 19.2%	94,196,000
Natural Gasoline blended	26,255,000
Total Domestic Production	238,686,000
Imports	10,000,000
Total Gasoline Supply	248,686,000
*Less Estimated Demand	208,000,000
Excess Supply Above Demand	40,686,000
Stocks October 1, 1930	38,242,000
Probable Stocks April 1, 1931	78,928,000
Gasoline supply apparently contemplated by refiners	248,686,000
Additions to October 1, 1930, Stocks	13,885,000
Apparent Contemplated Demand	234,801,000
Actual demand October 1, 1929-April 1, 1931	205,524,000
Expected Increase	29,277,000
	14.25%

*Sub-Committee Estimate.

The Possible Fuel Oil Situation

	Barrels
Total U. S. Crude Runs	490,603,000
California	101,400,000
East of California	389,203,000
Gas and Fuel Yield 36%	140,113,000
Imports	15,000,000
Intercoastal Shipments	3,000,000
Total Supply East of California	158,113,000
Estimated Demand	146,000,000
To Storage East of California	12,113,000

ADDITIONAL DATA FURNISHED IN REPLY TO THE FOLLOWING QUESTION FROM THE GENERAL COMMITTEE: Page 10

Question: What will be the effect upon the crude oil demand if the production of cracked gasoline is increased or decreased by units of one million barrels from the figures appearing in the General Statistical Summary.

With reference to the gasoline supply from cracking, tabulated on page 1 of the "General Statistical Summary," for every million barrel *reduction* in this item, it would require a consequent increase of 4,149,378 barrels, or 22,799 barrels per day, of crude oil demand to supply the equivalent amount of straight-run gasoline. On the other hand, for every million barrel *increase* in this item, a reduction equivalent to the above increase in crude oil demand would result.

Change Cracked Gasoline	Change Crude Oil Demand Total	Change Crude Oil Demand Daily Average
—1,000,000 barrels	+ 4,149,400	+ 22,800
—2,000,000 barrels	+ 8,298,700	+ 45,600
—3,000,000 barrels	+12,448,100	+ 68,400
—4,000,000 barrels	+16,597,500	+ 91,200
—5,000,000 barrels	+20,746,900	+114,000
+1,000,000 barrels	— 4,149,400	— 22,800
+2,000,000 barrels	— 8,298,700	— 45,600
+3,000,000 barrels	—12,448,100	— 68,400
+4,000,000 barrels	—16,597,512	— 91,200
+5,000,000 barrels	—20,746,900	—114,000

In case gasoline imports were changed, the crude requirements would be affected approximately in a similar manner.

Should any changes be made, particularly by increasing the supply of gasoline through cracking or imports with a consequent decrease in its supply from straight-run, it will at once be apparent that the supply of gas and fuel oil would be further diminished. It is doubtful if these stocks East of California should be lowered below the stocks indicated for April 1, 1931.

Petroleum Statistical Situation October 1, 1930 to April 1, 1931

(Report of Statistical Sub-Committee of the American Petroleum Institute at Chicago, November 10, 1930)

GASOLINE DEMAND FOR PERIOD OCTOBER 1, TO APRIL 1

	1929-1930 Actual	1930-1931 Estimated	Percent Increase
Domestic Demand	173,058,000	175,400,000	1.35
Exports	32,466,000	32,600,000	0.41
Total Demand	205,524,000	208,000,000	1.20

THE FOLLOWING COMPILATIONS HAVE BEEN BASED UPON GASOLINE STOCKS AS OF APRIL 1, 1931

	(Low)	(Estimate)	(High)	(Low)	(Estimate)	(High)	
	of 35,000,000	40,000,000	45,000,000	35,000,000	40,000,000	45,000,000	
Gasoline	GROSS			DAILY AVERAGE			Refer. Page
Total Demand[1]	208,000,000	208,000,000	208,000,000	1,142,900	1,142,900	1,142,900	1
Stocks Oct. 1, 1930[2]	38,200,000	38,200,000	38,200,000	38,200,000	38,200,000	38,200,000	3
Stocks April 1, 1931[3]	35,000,000	40,000,000	45,000,000	35,000,000	40,000,000	45,000,000	3
Change in Stocks (+ or —)	—3,200,000	+1,800,000	+6,800,000	—17,600	+9,800	+37,300	
Required New Supply[4]	204,800,000	209,800,000	214,800,000	1,125,300	1,152,700	1,180,200	
Imports[1] (deduct)	9,000,000	9,200,000	9,400,000	49,500	50,500	51,600	5
Required Refinery Output	195,800,000	200,600,000	205,400,000	1,075,800	1,102,200	1,128,600	4
From Natural[5] (deduct)	21,100,000	21,600,000	22,100,000	115,900	118,700	121,400	4-5
From Cracked[5] (deduct)	77,300,000	79,200,000	81,100,000	424,700	435,200	445,600	4-5
From Straight-run[6]	97,400,000	99,800,000	102,200,000	535,200	548,300	561,600	
Crude							
Runs to Stills (E. of C.)	318,300,000	325,473,000	334,040,000	1,748,900	1,788,300	1,835,400	
Runs to Stills (Calif.)[7] (add)	85,849,000	87,900,000	90,026,000	471,700	483,000	494,600	4
Runs to Stills, Total U. S.[8]	404,149,000	413,373,000	424,066,000	2,220,600	2,271,300	2,330,000	4
Exports[1] (add)	12,000,000	12,000,000	12,000,000	65,900	65,900	65,900	6
Used as Such[1] (add)	10,000,000	10,000,000	10,000,000	55,000	55,000	55,000	6
Total Demand	426,149,000	435,373,000	446,066,000	2,341,500	2,392,200	2,450,900	
Imports[1] (deduct)	28,238,000	28,875,000	29,538,000	155,200	158,700	162,300	6
Demand for U. S. Crude	397,911,000	406,498,000	416,528,000	2,186,300	2,233,500	2,288,600	6-7
Gas and Fuel Oil East of California							
Note: Due to the abundance of fuel oil on the Pacific Coast, only the fuel oil situation East of California is presented below.							
Total Demand[1]	146,000,000	146,000,000	146,000,000	802,200	802,200	802,200	6
Refinery Production[9] (deduct)	109,813,000	112,288,000	115,244,000	603,400	617,000	633,200	6
Production Deficit	36,187,000	33,712,000	30,756,000	198,800	185,200	169,000	
Imports[1] (deduct)	15,000,000	15,000,000	15,000,000	82,400	82,400	82,400	6
Intercoastal Receipts[10] (deduct)	3,000,000	3,000,000	3,000,000	16,500	16,500	16,500	6
Withdrawal from Stocks	18,187,000	15,712,000	12,756,000	99,900	86,300	70,100	6
Stocks Oct. 1, 1930[2]	35,820,000	35,820,000	35,820,000	35,820,000	35,820,000	35,820,000	6
Estimated Stocks April 1, 1931	17,633,000	20,108,000	23,064,000	17,633,000	20,108,000	23,064,000	6

[1]Average of individual estimates submitted by members of committee.
[2]From Bureau of Mines report for September.
[3]Assumed stock programs.
[4]Total Demand adjusted for change in stocks.
[5]Based upon present program reduced under various assumed stock programs.
[6]Total Refinery Output minus production from natural gasoline and cracking.
[7]Crude required to produce pro rata of straight-run gasoline in California.
[8]Based upon average straight-run gasoline yield of 24.1% from crude.
[9]Based upon average net gas and fuel oil yield of 34.5% from crude East of California.
[10]Based upon composite estimate compiled from individual reports of California operators.

(Continued on next page)

METHOD OF DETERMINING CRUDE RUNS TO STILLS BY DISTRICTS

(Sheet No. 1 Method continued on following page) Figures in barrels of 42 gallons

Page 2

	Gasoline Stocks at Refineries		Apparent Excess Refinery Gasoline Production during October 1, 1929—April 1, 1930 period		Actual Refinery Gasoline Production during Oct. 1, 1929—April 1, 1930 period		Refinery Deliveries of Gasoline from Production during Oct. 1, 1929—April 1, 1930 period			Estimated Gasoline Demand upon U. S. Refineries during Oct. 1, 1930—April 1, 1931	
	Oct. 1, 1929	April 1, 1930	Total	Daily	Total	Daily	Total	Daily	Percent	Total	Daily
East Coast, Total	4,112,000	9,132,000	5,020,000	27,600	31,408,000	172,600	26,388,000	145,000	13.23	26,301,000	144,500
Appalachian, Total	1,066,000	2,125,000	1,059,000	5,800	7,787,000	42,800	6,728,000	37,000	3.37	6,700,000	36,800
Indiana, Illinois, Total	4,375,000	8,832,000	4,457,000	24,500	33,383,000	183,400	28,926,000	158,900	14.51	28,846,000	158,500
Oklahoma, Kansas, Total	2,937,000	5,124,000	2,187,000	12,000	30,746,000	168,900	28,559,000	156,900	14.32	28,468,000	156,400
Texas, Total	4,087,000	8,208,000	4,121,000	22,600	49,453,000	271,700	45,332,000	249,100	22.73	45,187,000	248,300
Louisiana, Arkansas, Total	1,684,000	2,661,000	977,000	5,400	16,006,000	88,000	15,029,000	82,600	7.54	14,990,000	82,400
Rocky Mountain, Total	1,843,000	3,168,000	1,325,000	7,300	7,248,000	39,800	5,923,000	32,500	2.97	5,904,000	32,400
California, Total	13,052,000	15,978,000	2,926,000	16,100	45,438,000	249,700	42,512,000	233,600	21.33	42,404,000	233,000
Total U. S.	33,156,000	55,228,000	22,072,000	121,300	221,469,000	1,216,900	199,397,000	1,095,600	100.00	198,800,000	1,092,300
Texas Gulf, Total	3,120,000	6,719,000	3,599,000	19,800	37,111,000	203,900	33,512,000	184,100	16.81	33,418,000	183,600
Louisiana Gulf, Total	1,397,000	2,307,000	910,000	5,000	11,633,000	63,900	10,723,000	58,900	5.38	10,696,000	58,800
Total Gulf	4,517,000	9,026,000	4,509,000	24,800	48,744,000	267,800	44,235,000	243,000	22.19	44,114,000	242,400
Inland Texas, Total	967,000	1,489,000	522,000	2,800	12,342,000	67,800	11,820,000	65,000	5.92	11,769,000	64,700
North La. and Ark., Total	287,000	354,000	67,000	400	4,373,000	24,100	4,306,000	23,700	2.16	4,294,000	23,600

METHOD OF DETERMINING CRUDE RUNS TO STILLS BY DISTRICTS BASED ON 40,000,000 BARREL STOCK

Sheet No. 2, (Method continued on following page) Figures in barrels of 42 gallons

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	Estimated Gasoline Demand upon U. S. Refineries during Period Oct. 1, 1930 to April 1, 1931		Break-up by Districts of Estimated Stocks of Gasoline April 1, 1931	Working Stocks of Gasoline Oct. 1, 1930 as reported to A. P. I.	Gasoline Production in excess of Current Demand to Build up Working Stocks Oct. 1, 1930 to Estimated Stocks April 1, 1931	Total Amount of Gasoline Refineries would have to produce during Oct. 1-April 1 period under ideal stock conditions	Actual Stocks of Gasoline Oct. 1, 1930	Excess Stocks of Gasoline Oct. 1, 1930	Total Amount of Gasoline Refineries would produce during Oct. 1-April 1 period under actual stock conditions Oct. 1, 1930	
	Total	Daily							Total	Daily
East Coast Total	26,301,000	144,500	6,643,000	4,696,000	1,947,000	28,248,000	5,425,000	729,000	27,519,000	151,000
Appalachian Total	6,700,000	36,800	1,324,000	888,000	436,000	7,136,000	1,168,000	280,000	6,856,000	38,000
Indiana, Illinois Total	28,846,000	158,500	6,015,000	3,925,000	2,090,000	30,936,000	5,462,000	1,537,000	29,399,000	161,000
Oklahoma, Kansas Total	28,468,000	156,400	3,684,000	1,914,000	1,770,000	30,238,000	3,086,000	1,172,000	29,066,000	160,000
Texas Total	45,187,000	248,300	6,557,000	4,319,000	2,238,000	47,425,000	5,738,000	1,419,000	46,006,000	253,000
Louisiana, Arkansas Total	14,990,000	82,400	1,825,000	1,250,000	575,000	15,565,000	1,104,000	—146,000	15,711,000	86,000
Rocky Mountain Total	5,904,000	32,400	1,766,000	1,173,000	593,000	6,497,000	1,896,000	723,000	5,774,000	32,000
California Total	42,404,000	233,000	12,186,000	9,019,000*	3,167,000	45,571,000	14,363,000	5,344,000	40,227,000	221,000
Total U. S.	198,800,000	1,092,300	40,000,000	27,184,000	12,816,000	211,616,000	38,242,000	11,058,000	200,558,000	1,102,000
Texas Gulf Total	33,418,000	183,600	5,357,000	3,501,000	1,856,000	35,274,000	3,757,000	256,000	35,018,000	193,000
Louisiana Gulf Total	10,696,000	58,800	1,635,000	1,115,000	520,000	11,216,000	858,000	—257,000	11,473,000	63,000
Total Gulf	44,114,000	242,400	6,992,000	4,616,000	2,376,000	46,490,000	4,615,000	—1,000	46,491,000	256,000
Inland Texas Total	11,769,000	64,700	1,200,000	818,000	382,000	12,151,000	1,981,000	1,163,000	10,988,000	60,000
North Louisiana & Arkansas Total	4,294,000	23,600	190,000	135,000	55,000	4,349,000	246,000	111,000	4,238,000	23,000

*Revised.

*Revised.

METHOD OF DETERMINING CRUDE RUNS TO STILLS BY DISTRICTS BASED ON 40,000,000 BARREL STOCK

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	Total amount of gasoline refineries would produce during Oct. 1—April 1 period during actual stock conditions Oct. 1, 1930. Total	Daily	Estimated amount of natural gasoline that would be blended at refineries during Oct. 1—April 1 period Total	Daily	Estimated amount of cracked gasoline that would be produced during Oct. 1—April 1 period Total	Daily	Total amount of gasoline refineries would have to produce by straight-run process during Oct. 1—April 1 period Total	Daily	Estimated straight run gasoline yield (percent)	Estimated Crude Oil that would be run to stills during Oct. 1—April 1, Period to Produce Estimated Amount of Straight-run Gasoline Total	Daily
East Coast, Total	27,519,000	151,000	568,000	3,000	14,054,000	77,000	12,897,000	71,000	17.5	73,697,000	405,000
Appalachian, Total	6,856,000	38,000	217,000	1,000	2,580,000	14,000	4,062,000	22,000	28.5	14,253,000	78,000
Indiana, Illinois, Total	29,399,000	161,000	1,285,000	7,000	14,411,000	79,000	13,703,000	75,000	27.0	50,752,000	279,000
Oklahoma, Kansas, Total	29,066,000	160,000	2,420,000	13,000	10,405,000	57,000	16,241,000	89,000	32.5	49,972,000	275,000
Texas, Total	46,006,000	253,000	6,143,000	34,000	20,691,000	114,000	19,172,000	105,000	22.5	85,208,000	468,000
Louisiana, Arkansas, Total	15,711,000	86,000	1,736,000	10,000	6,094,000	34,000	7,881,000	43,000	18.0	43,783,000	240,000
Rocky Mountain, Total	5,774,000	32,000	718,000	4,000	2,987,000	16,000	2,069,000	12,000	26.5	7,808,000	43,000
California, Total	40,227,000	221,000	8,513,000	47,000	7,978,000	44,000	23,733,000	131,000	27.0	87,900,000	483,000
Total U. S.	(200,558,000)						(99,758,000)				
(40,000,000)	200,600,000	1,102,000	21,600,000	119,000	79,200,000	435,000	99,800,000	548,000	24.1	413,373,000	2,271,000
(35,000,000)	195,800,000	1,076,000	21,100,000	116,000	77,300,000	425,000	97,400,000	535,000	24.1	404,149,000	2,221,000
(45,000,000)	205,400,000	1,129,000	22,100,000	121,000	81,100,000	446,000	102,200,000	562,000	24.1	424,066,000	2,330,000
Texas Gulf, Total	35,018,000	193,000	4,674,000	26,000	16,617,000	91,000	13,727,000	75,000	20.0	68,635,000	377,000
Louisiana Gulf, Total	11,473,000	63,000	1,102,000	6,000	4,498,000	25,000	5,873,000	32,000	20.0	29,365,000	161,000
Total Gulf	46,491,000	256,000	5,776,000	32,000	21,115,000	116,000	19,600,000	107,000	20.0	98,000,000	538,000
Inland Texas, Total	10,988,000	60,000	1,469,000	8,000	4,074,000	23,000	5,445,000	30,000	32.8	16,573,000	91,000
North La. and Ark., Total	4,238,000	23,000	634,000	4,000	1,596,000	9,000	2,008,000	11,000	13.9	14,418,000	79,000

GASOLINE STOCK SITUATION APRIL 1, 1931, BASED ON PRESENT TENDENCY OF SUPPLY

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(Barrels of 42 U. S. gallons)

	Total	Daily
SUPPLY—		
Straight Run Gasoline (6 months)	108,700,000	597,300
Cracked Gasoline (6 months)	86,300,000	474,200
Natural Gasoline Blended at Refineries (6 mo.)	23,500,000	129,100
Total Refinery Production	218,500,000	1,200,600
Imports (6 months)	10,000,000	54,900
Total Gasoline Supply	228,500,000	1,255,500
DEMAND—		
Domestic Demand	175,400,000	963,800
Exports	32,600,000	179,100
	208,000,000	1,142,900
Surplus	20,500,000	112,600
STOCKS—		
Gasoline Stocks October 1	38,200,000	
Surplus 10/1/30 to 4/1/31	20,500,000	
Stocks April 1, 1931	58,700,000	

If instead of the 58,700,000 barrels indicated above as being in storage April 1, 1931, lower stocks are desirable—say 45,000,000, 40,000,000 or 35,000,000 barrels, the supply would have to be reduced 6.0%, 8.2% or 10.4% respectively. Details follow for each stock condition:

	Present Rate Running	Reduced 6.0%	Reduced 8.2%	Reduced 10.4%
Straight Run	108,700,000	102,200,000	99,800,000	97,400,000
Cracked	86,300,000	81,100,000	79,200,000	77,300,000
Natural	23,500,000	22,100,000	21,600,000	21,100,000
Imports	10,000,000	9,400,000	9,200,000	9,000,000
Total Supply	228,500,000	214,800,000	209,800,000	204,800,000
Dom. Con. & Exports	208,000,000	208,000,000	208,000,000	208,000,000
To or from storage	+20,500,000	+6,800,000	+1,800,000	—3,200,000
Gasoline Stocks Oct. 1, 1930	38,200,000	38,200,000	38,200,000	38,200,000
Stock Situation April 1, 1931	58,700,000	45,000,000	40,000,000	35,000,000

(Continued on next page)

CRUDE OIL SITUATION IN THE UNITED STATES

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(Figures in Barrels of 42 Gallons)
October 1, 1930 to April 1, 1931

Based on Gasoline Stock Situation as of April 1, 1931, of:	35,000,000		40,000,000		45,000,000	
	Total	Daily Avg.	Total	Daily Avg.	Total	Daily Avg.
Crude to stills	404,149,000	2,221,000	413,373,000	2,271,000	424,066,000	2,330,000
Exports	12,000,000	66,000	12,000,000	66,000	12,000,000	66,000
Used as such	10,000,000	55,000	10,000,000	55,000	10,000,000	55,000
Crude required	426,149,000	2,342,000	435,373,000	2,392,000	446,066,000	2,451,000
Imports	28,238,000	155,000	28,875,000	158,000	29,538,000	162,000
Needed U. S. Supply	397,911,000	2,187,000	406,498,000	2,234,000	416,528,000	2,289,000

GAS AND FUEL OIL SITUATION—EAST OF CALIFORNIA

(Figures in Barrels of 42 Gallons)
October 1, 1930, to April 1, 1931

Based on Gasoline Stock Situation as of April 1, 1931, of:	35,000,000		40,000,000		45,000,000	
	Total	Daily Avg.	Total	Daily Avg.	Total	Daily Avg.
Crude to stills	404,149,000	2,221,000	413,373,000	2,271,000	424,066,000	2,330,000
California	85,849,000	472,000	87,900,000	483,000	90,026,000	495,000
E. of Calif.	318,300,000	1,749,000	325,473,000	1,788,000	334,040,000	1,835,000
Gas & fuel yield	34.5%		34.5%		34.5%	
Production	109,813,000	603,000	112,288,000	617,000	115,244,000	633,000
Imports	15,000,000	83,000	15,000,000	83,000	15,000,000	83,000
Intercoastal	3,000,000	16,000	3,000,000	16,000	3,000,000	16,000
Total supply	127,813,000	702,000	130,288,000	716,000	133,244,000	732,000
Total demand	146,000,000	802,000	146,000,000	802,000	146,000,000	802,000
From stock	18,187,000	100,000	15,712,000	86,000	12,756,000	70,000
Stocks:						
October 1, 1930	35,820,000		35,820,000		35,820,000	
April 1, 1931	17,633,000		20,108,000		23,064,000	

GAS AND FUEL OIL SITUATION EAST OF CALIFORNIA

(40 Million Gasoline Stock Basis)

	Stocks Oct. 1, 1930	Production	Shipments	Stocks April 1, 1931
East Coast	11,137,000	34,580,000	39,309,000	6,408,000
Appalachian	1,227,000	2,510,000	2,752,000	985,000
Ind., Ill., Ky.	4,313,000	12,630,000	15,526,000	1,417,000
Okla., Kans., Mo.	5,265,000	13,230,000	15,271,000	3,224,000
Texas	10,398,000	34,030,000	39,027,000	5,401,000
La., Ark.	2,223,000	13,310,000	13,440,000	2,093,000
Rocky Mt.	1,257,000	1,998,000	2,675,000	580,000
Total—East of Calif.	35,820,000	112,288,000	128,000,000	20,108,000

ESTIMATED CRUDE OIL DEMAND IN THE UNITED STATES BY DISTRICTS

Page 7

Oct. 1, 1930, to April 1, 1931
(Based on 40 Million Barrel Gasoline Stock)

Field—	Total Demand Barrels	Daily Average Barrels
Pennsylvania	10,561,000	58,000
Kentucky	4,447,000	24,400
Lima, Illinois	1,809,000	9,900
Illinois, Indiana	3,325,000	18,300
North Louisiana and Arkansas	15,716,000	86,400
West Texas and New Mexico	57,562,000	316,300
Oklahoma, Kansas, North Texas	173,574,000	953,700
Gulf Coast	32,365,000	177,800
Rocky Mountain	10,663,000	58,600
California	96,476,000	530,100
Foreign	28,875,000	158,700
Total	435,373,000	2,392,200
Total crude demand	435,373,000	
Foreign crude	28,875,000	
Domestic demand	406,498,000	
Daily average	2,234,000	
Based on 35,000,000 barrel Gasoline Stock		
Total Crude Demand	426,149,000	
Foreign Crude	28,238,000	
Domestic Demand	397,911,000	
Daily Average	2,186,000	
(Based on 45 Million Barrel Gasoline Stocks)		
Total crude demand	446,066,000	
Foreign crude	29,538,000	
Domestic demand	416,528,000	
Daily average	2,289,000	

ESTIMATED GASOLINE OUTPUT OF REFINERIES TO ARRIVE AT 40,000,000 STOCKS APRIL 1, 1931

(Based on assumption that estimated shipments of 198,800,000 barrels Oct. 1, 1930, to April 1, 1931, materialize)
(Barrels of 42 Gallons)

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	East Coast	Appalachian	Indiana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	California	Total United States
October, 1930	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
November, 1930	4,538,000	1,130,000	4,845,000	4,791,000	1,810,000	698,000	5,771,000	1,891,000	953,000	6,630,000	33,057,000
December, 1930	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
January, 1931	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
February, 1931	4,233,000	1,054,000	4,522,000	4,471,000	1,690,000	652,000	5,387,000	1,766,000	889,000	6,189,000	30,853,000
March, 1931	4,687,000	1,168,000	5,008,000	4,951,000	1,878,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
Total	27,519,000	6,856,000	29,399,000	29,066,000	10,988,000	4,238,000	35,018,000	11,473,000	5,774,000	40,227,000	200,558,000
Daily Average	151,203	37,670	161,533	159,703	60,374	23,286	192,407	63,038	31,725	221,028	1,101,967

Total	27,519,000	6,856,000	29,399,000	29,066,000	10,988,000	4,238,000	35,018,000	11,473,000	5,774,000	40,227,000	200,558,000
Daily Average	151,203	37,670	161,533	159,703	60,374	23,286	192,407	63,038	31,725	221,028	1,101,967

ESTIMATED SHIPMENTS OF GASOLINE USED IN THE ABOVE PRODUCTION ESTIMATES

(Barrels of 42 Gallons)

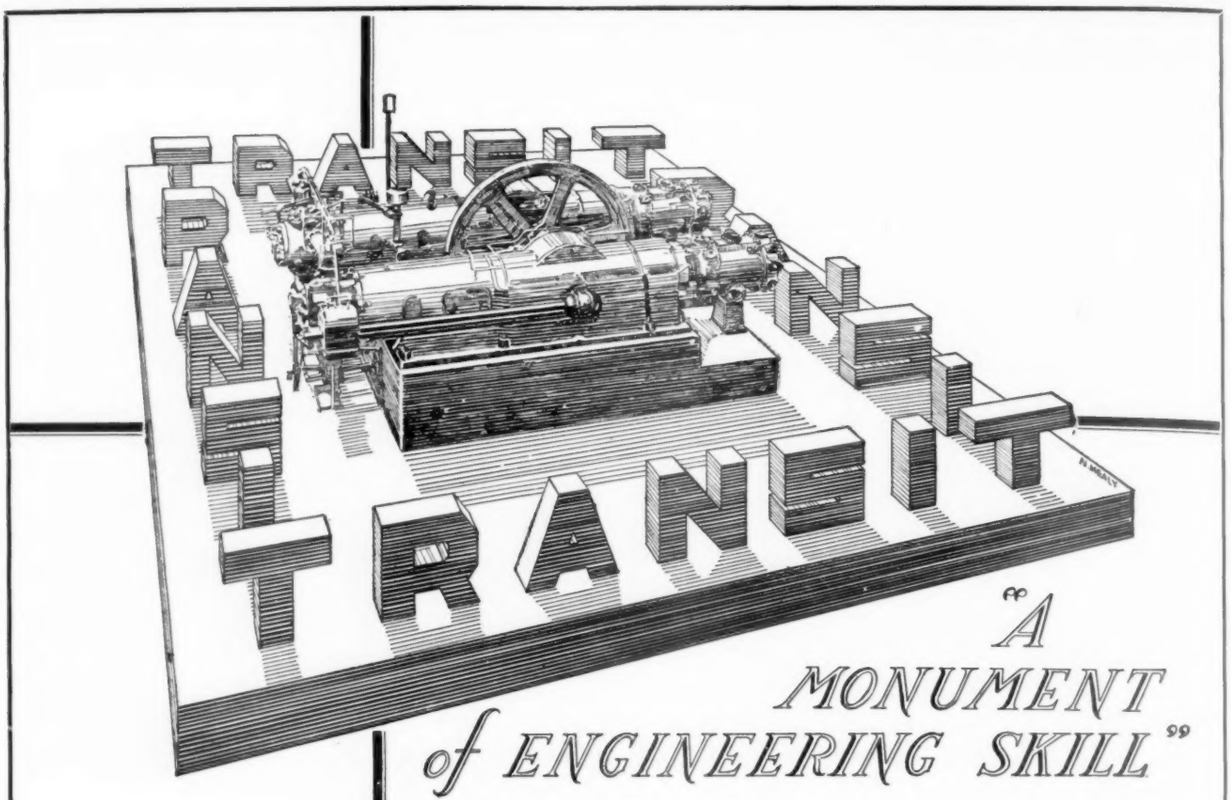
	East Coast	Appalachian	Indiana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	California	Total United States
October, 1930	5,221,000	1,284,000	5,733,000	5,439,000	2,096,000	736,000	5,711,000	1,847,000	1,401,000	7,313,000	36,781,000
November, 1930	4,837,000	1,202,000	5,243,000	4,941,000	1,860,000	743,000	5,446,000	1,689,000	1,048,000	6,894,000	33,903,000
December, 1930	4,561,000	1,069,000	4,710,000	4,565,000	1,957,000	703,000	5,583,000	1,761,000	837,000	7,439,000	33,185,000
January, 1931	3,914,000	999,000	4,058,000	4,329,000	1,883,000	677,000	5,158,000	1,820,000	802,000	6,597,000	30,237,000
February, 1931	3,547,000	971,000	4,004,000	4,102,000	1,849,000	653,000	5,348,000	1,812,000	798,000	6,698,000	29,782,000
March, 1931	4,221,000	1,175,000	5,098,000	5,092,000	2,124,000	782,000	6,172,000	1,767,000	1,018,000	7,463,000	34,912,000
Total	26,301,000	6,700,000	28,846,000	28,468,000	11,769,000	4,294,000	33,418,000	10,696,000	5,904,000	42,404,000	198,800,000

NOTE—In the above table covering estimated shipments the division of totals for each group for the six months period is based on seasonal variation shown by the combined experience of corresponding periods ending with March of the years 1925 to 1930, inclusive.

CONSOLIDATED STATEMENT OF ESTIMATED GASOLINE PRODUCTION, SHIPMENTS AND RESULTANT STOCKS

(Based on assumption that 40,000,000 barrels is adequate on April 1, 1931)
(Barrels of 42 gallons)

	East Coast	Appalachian	Indiana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	California	Total United States
Estimated Stocks											
Oct. 1, 1930	5,425,000	1,168,000	5,462,000	3,086,000	1,981,000	246,000	3,757,000	858,000	1,896,000	14,363,000	38,242,000
October, 1930:											
Production	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
Shipments	5,221,000	1,284,000	5,733,000	5,439,000	2,096,000	736,000	5,711,000	1,847,000	1,401,000	7,313,000	36,781,000
Closing Stocks	4,891,000	1,052,000	4,737,000	2,598,000	1,757,000	232,000	4,011,000	965,000	1,478,000	13,902,000	35,623,000
November, 1930:											
Production	4,538,000	1,130,000	4,845,000	4,791,000	1,810,000	698,000	5,771,000	1,891,000	953,000	6,630,000	33,057,000
Shipments	4,837,000	1,202,000	5,243,000	4,941,000	1,860,000	743,000	5,446,000	1,689,000	1,048,000	6,894,000	33,903,000
Closing Stocks	4,592,000	980,000	4,339,000	2,448,000	1,707,000	187,000	4,336,000	1,167,000	1,383,000	13,638,000	34,777,000
December, 1930:											
Production	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
Shipments	4,561,000	1,069,000	4,710,000	4,565,000	1,957,000	703,000	5,583,000	1,761,000	837,000	7,439,000	33,185,000
Closing Stocks	4,718,000	1,079,000	4,637,000	2,834,000	1,622,000	206,000	4,718,000	1,366,000	1,529,000	13,051,000	35,754,000
January, 1931:											
Production	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
Shipments	3,914,000	999,000	4,058,000	4,329,000	1,883,000	677,000	5,158,000	1,820,000	802,000	6,597,000	30,237,000
Closing Stocks	5,491,000	1,248,000	5,587,000	3,456,000	1,611,000	251,000	5,525,000	1,494,000	1,710,000	13,306,000	39,679,000
February, 1931:											
Production	4,233,000	1,054,000	4,522,000	4,471,000	1,690,000	652,000	5,387,000	1,766,000	889,000	6,189,000	30,853,000
Shipments	3,547,000	971,000	4,004,000	4,102,000	1,849,000	653,000	5,348,000	1,812,000	798,000	6,698,000	29,782,000
Closing Stocks	6,177,000	1,331,000	6,105,000	3,825,000	1,452,000	250,000	5,564,000	1,448,000	1,801,000	12,797,000	40,750,000
March, 1931:											
Production	4,687,000	1,168,000	5,008,000	4,951,000	1,872,000	722,000	5,965,000	1,954,000	983,000	6,852,000	34,162,000
Shipments	4,221,000	1,175,000	5,098,000	5,092,000	2,124,000	782,000	6,172,000	1,767,000	1,018,000	7,463,000	34,912,000
Closing Stocks	6,643,000	1,324,000	6,015,000	3,684,000	1,200,000	190,000	5,357,000	1,635,000	1,766,000	12,186,000	40,000,000
Total 6 Months:											
Production	27,519,000	6,856,000	29,399,000	29,066,000	10,988,000	4,238,000	35,018,000	11,473,000	5,774,000	40,227,000	200,558,000
Shipments	26,301,000	6,700,000	28,846,000	28,468,000	11,769,000	4,294,000	33,418,000	10,696,000	5,904,000	42,404,000	198,800,000
Closing Stocks	6,643,000	1,324,000	6,015,000	3,684,000	1,200,000	190,000	5,357,000	1,635,000	1,766,000	12,186,000	40,000,000



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St. Louis, Mo.

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Texas Production Continues Downward Trend

TEXAS, outside of the Gulf Coast, continued to exhibit a downward production trend last week, when this area recorded another decline in daily average production of 6200 barrels. On the basis of a former allowable output of 765,000 barrels daily, the state production total is now 21,250 barrels below that quota. With the prospect of a further sharp downward revision in allowable output to be brought up for consideration by the Texas Railroad Commission on Saturday, however, it is possible that the present output will in reality be about 30,000 barrels in excess of the probable quota. It is possible that the railroad commission will consider an order to limit Texas production to 710,000 barrels daily after the hearing at Austin on Saturday. In any event, it is certain that a downward revision will be made, since it has been ascertained by the central proration committee that nominations and outside purchases will not exceed 718,000 barrels daily.

While Texas, Kansas and the Eastern States reported substantial declines in production last week, a gain of 16,700 barrels in Oklahoma and a gain of 4900 barrels in California resulted in an increase in national daily crude production of 7300 barrels. The total for the week ending November 15, was 2,304,550 barrels. The gain in Oklahoma's output was due to increased production at Oklahoma City, causing output there to show a gain of 18,250 barrels daily. On the basis of an allowable production of 550,000 barrels, Oklahoma production is still 43,650 barrels a day less than the quota. Production schedules in Oklahoma are now being adjusted to allow an increase in output at Oklahoma City and it is believed that completion of this work will undoubtedly result in a further decline in the areas outside of Oklahoma City, possibly more than offsetting the allowed increase in that field.

A check of production figures for the Texas Gulf Coast area shows that a natural decline has been in progress since a majority of operators there agreed to cease unnecessary drilling. As a matter of fact, production in the Texas Gulf Coast is beginning to fall below the limit ordered by the railroad commission last August. Whether the railroad commission will allow operators in the Texas Gulf Coast to continue operating under present conditions is a matter to be decided on Saturday. Indications point to the possibility of a definite order for a reduction in output of that area, unless operators can show cause for further exemption from proration. It is understood that The Texas Pipe Line Company is taking all the oil that is offered at Humble and Sun Oil Company is in the market for all the Gulf Coast oil it can get to satisfy refinery needs.

Crude Market Marks Time

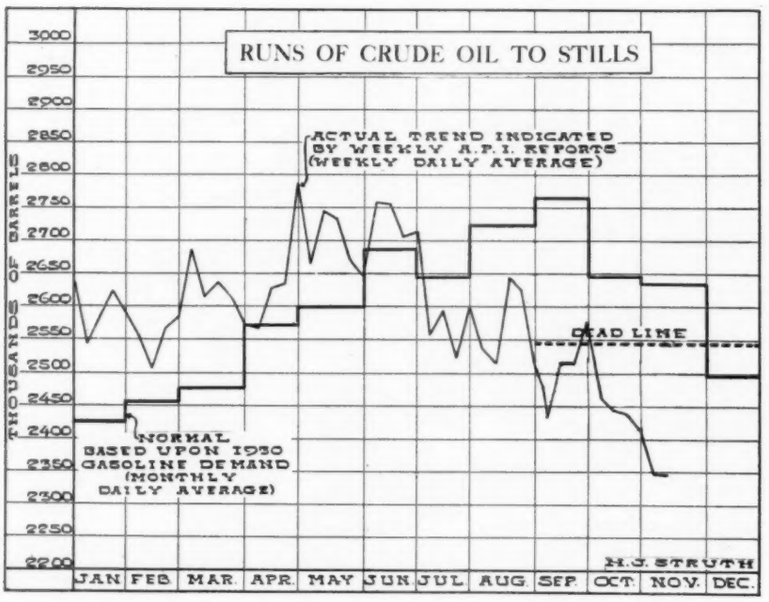
The crude oil market continues to mark time and most operators have accepted the unfavorable situation as a means to an end, with the hopeful feeling that next year will reflect the results of curtailment with a better market situation. In the meanwhile, Pennsylvania crude was further reduced on November 13, when the Joseph Seep Purchasing Agency posted a general reduction of 15 cents a barrel. This added reduction has brought the price of Bradford oil down to $2.15 a barrel, the lowest price since 1915. While production of Pennsylvania grade oils has been showing a steady decline, it is apparent that over-production still exists in that area.

A rather unusual situation in the crude market has arisen in Montana where increased buying has resulted through the fact that Canada has imposed a duty of 2½ cents per gallon on gasoline shipped in from the United States. Since there is no import duty on crude oil, Canadian refiners are using more of the crude produced in Montana. This situation is creating a competitive angle that is expected to bring about a scramble for connections by refining interests on both sides of the international line. The Kevin-Sunburst field is an important factor in this situation.

Following are the more important changes in production last week, as indicated from figures received from the American Petroleum Institute:

		Barrels
Gray County	Decrease	4,600
Hutchinson County	Decrease	2,850
Wilbarger County	Increase	1,500
Young County	Decrease	3,500
Yates	Increase	2,900
Chapman	Decrease	1,300
Darst Creek	Increase	12,750
Laredo District	Increase	1,050
Barbers Hill	Increase	1,750
Pierce Junction	Decrease	1,050
Bowlegs	Increase	1,050
Bristow-Slick	Decrease	1,150
Carr City	Increase	3,900
Earlsboro	Increase	6,000
East Earlsboro	Increase	4,750
Healdton	Decrease	1,050
Little River	Increase	2,150
Logan County	Decrease	1,500
Mission	Increase	2,700
Oklahoma City	Increase	18,250
Scholem-Alechem	Decrease	4,000
South Earlsboro	Increase	2,900
Long Beach	Increase	1,600
Playa del Rey	Increase	3,000
Greenwood	Decrease	1,850
Sedgwick	Decrease	1,550
Hobbs High	Increase	1,900

MARKET SECTION



Refiners Increase Runs to Stills; Gasoline Stocks Increase

Crude runs to stills of United States refineries for the week ending November 15, aggregated 16,049,000 barrels, according to the American Petroleum Institute. This was a daily average of about 2,293,000 barrels, compared with 2,275,000 barrels for the week ending November 8, or a gain of 18,000 barrels a day. On a Bureau of Mines basis, runs to stills last week apparently amounted to 2,362,000 barrels daily, against 2,343,000 barrels during the preceding week. Compared with the maximum figure of the volunteer committee on economics, last week's runs total is only 18,000 barrels a day in excess of the economic limit for November. It will be remembered that the limit prescribed by this committee for the month of November was 2,180,000 barrels, to which was added 164,000 barrels representing imported crude, or a total requirement of 2,344,000 barrels. During the week ending November 8, the actual refinery throughput was approximately in balance with the prescribed figure.

Stocks of gasoline increased 251,000 barrels last week, according to returns received from the refining companies by the American Petroleum Institute. The reported total on hand November 15 was 37,263,000 barrels, whereas the total for the preceding week was 37,012,000 barrels. The ease with which gasoline stocks increase, as a result of unfavorable weather

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING NOVEMBER 8, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	3,374,000	482,000	78.7	5,705,000	11,878,000
Appalachian	141,300	131,700	93.2	514,000	73,400	55.7	824,000	990,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	1,658,000	236,900	62.2	4,471,000	3,946,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,737,000	248,100	60.2	2,215,000	4,577,000
Texas	809,000	743,500	91.9	3,656,000	522,300	70.2	6,450,000	10,558,000
Louisiana-Arkansas	266,600	262,000	98.3	1,040,000	148,600	56.7	1,217,000	2,062,000
Rocky Mountain	150,100	139,700	93.1	310,000	44,300	31.7	1,532,000	1,027,000
California	898,500	883,600	98.3	3,633,000	519,000	58.7	14,598,000	103,982,000
Total Week Nov. 8	3,730,100	3,566,400	95.6	15,922,000	2,274,600	63.8	37,012,000	139,020,000
Total Week Nov. 1	3,730,100	3,566,400	95.6	15,971,000	2,281,600	64.0	37,215,000	139,626,000
The total U. S. figures for last year, shown immediately below, are not comparable with this week's totals because of difference in percentage capacity reporting.								
Total Nov. 9, 1929*	3,678,700	3,490,200	94.9	18,476,000	2,639,500	75.6	33,645,000	145,522,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	529,500	529,500	100.0	2,872,000	410,300	77.5	5,242,000	7,787,000
Louisiana Gulf Coast	147,500	147,500	100.0	744,000	106,300	72.1	991,000	1,105,000

*Final revised.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 4th Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending November 15, 1930	Excess
Arkansas	59,518	59,518	51,950	—7,568
California	654,034	594,000	601,800	7,800
Kansas	115,407	105,554	111,700	6,146
Louisiana	57,704	57,704	70,000	12,896
Oklahoma	653,252	550,000	506,350	—43,650
Texas	767,167	765,000*	742,750	—21,250
Balance of U. S.	230,000	230,000	218,400	—11,600
Total	2,537,082	2,371,776	2,304,550	—67,226

*New limit account reduction of 10,000 barrels in Panhandle district ordered by Railroad Commission.

conditions, shows that refiners cannot afford to ignore the facts that have been so carefully studied out for them by the committee appointed by the Federal Oil Conservation Board. It is believed that continued adherence to the schedule outlined by this committee will effectively reduce stocks of gasoline by April 1, 1931. Ups and downs in gasoline stocks, affected by weather conditions are relatively unimportant. The goal for the industry lies in bringing gasoline stocks down to a normal level by April 1, 1931, and the course to that goal is along the path of sound economics that indicates the limits of still runs.

California Crude and Refined Market Both Weak

The California market structure is weaker than it was a month ago, with both crude and gasoline participating in the heaviness. Oil production has shown only a slight increase but demands hardly justify the present output of crude. The daily average would be ideal if past periods of overproduction had not built up heavy stocks which are now standing in the way of stabilization.

Playa del Rey is producing close to 40,000 barrels and this excess is weakening the market in other fields. This townlot crude is being widely scattered and each barrel is replacing one which would normally be produced in more settled fields. Peak production is undoubtedly near at hand and a decline should be recorded soon. Efforts to prorate production there have been partially successful and operators have been promised a regular posted price schedule if they will cut their full percentage and come into the curtailment fold. The field output is not large when compared with other critical areas, but production is just large enough to create a troublesome excess.

California crude prices are considered out of line with those in certain Mid-Continent fields but no reduction will be posted before early next year, and even then present prices will hold if the state output is held fairly well in check. The spread between crude and gasoline prices is also considered out of line by some economists and future adjustments probably will be made by lowering gasoline prices rather than by changing crude quotations. Inventory losses would be sustained if a lower schedule should be posted during this year.

Another gasoline price war is threatened all along the Pacific Coast but major companies believe that extremely low prices will be averted.

Maintenance of former gasoline and crude prices in California, while the Mid-Continent and Eastern States are experiencing lower prices, creates a disparity which is more or less obvious to market students. Shell Oil Company has opened up a new heavy oil field in the Weed Patch district near Bakersfield. The discovery well is flowing 1100 barrels.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended Nov. 8		Week Ended Nov. 1
AT ATLANTIC COAST PORTS—			
Baltimore	244,000	"A"	65,000
Boston	80,000		68,000
New York	951,000		983,000
Philadelphia	351,000		275,000
Others	122,000		132,000
Total	1,748,000		1,523,000
Daily Average	249,714		217,571
AT GULF COAST PORTS—			
Galveston District	.....		.....
New Orleans & Baton Rouge	80,000		135,000
Port Arthur & Sabine District	.....		86,000
Tampa	.....		.....
Total	80,000		221,000
Daily Average	11,429		31,571
AT ALL UNITED STATES PORTS—			
Total	1,828,000		1,744,000
Daily Average	261,143		249,142
Daily Average Four Weeks Ended	261,000		273,643
Distribution of Total Imports is as follows:			
Crude	1,394,000	"A"	1,129,000
Gasoline	291,000		235,000
Gas Oil	.....		129,000
Fuel Oil	143,000		251,000
Total	1,828,000		1,744,000

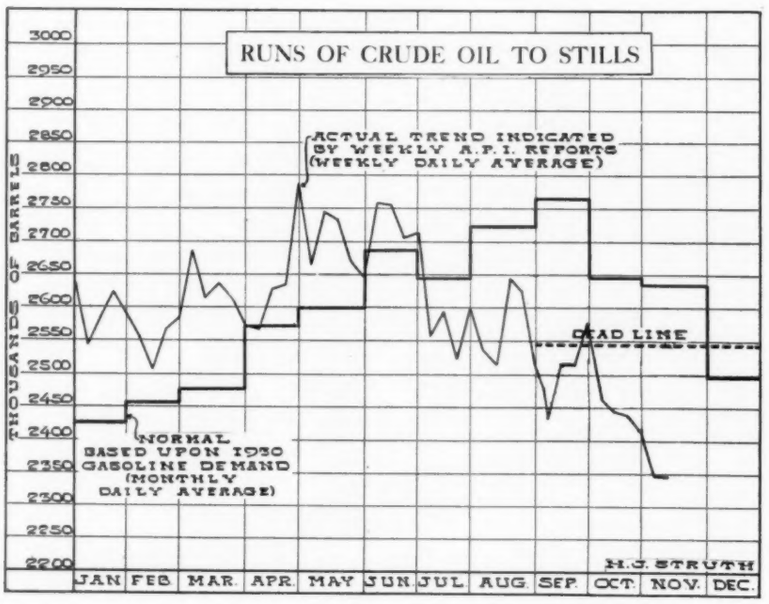
"A"—Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended Nov. 8	Week Ended Nov. 1
AT ATLANTIC COAST PORTS—		
Baltimore	100,000	.....
Boston	129,000	.....
New York	374,000	74,000
Philadelphia	114,000	52,000
Others	.....	.....
Total	717,000	126,000
Daily Average	102,429	18,000
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	717,000	126,000
Daily Average	102,429	18,000
Daily Average Four Weeks Ended	72,929	60,607
Distribution of Total California Oil Receipts is as follows:		
Gasoline	606,000	81,000
Kerosene	.....	45,000
Gas Oil	64,000	.....
Fuel Oil	44,000	.....
Lubricants	3,000	.....
Total	717,000	126,000

MARKET SECTION



Refiners Increase Runs to Stills; Gasoline Stocks Increase

Crude runs to stills of United States refineries for the week ending November 15, aggregated 16,049,000 barrels, according to the American Petroleum Institute. This was a daily average of about 2,293,000 barrels, compared with 2,275,000 barrels for the week ending November 8, or a gain of 18,000 barrels a day. On a Bureau of Mines basis, runs to stills last week apparently amounted to 2,362,000 barrels daily, against 2,343,000 barrels during the preceding week. Compared with the maximum figure of the volunteer committee on economics, last week's runs total is only 18,000 barrels a day in excess of the economic limit for November. It will be remembered that the limit prescribed by this committee for the month of November was 2,180,000 barrels, to which was added 164,000 barrels representing imported crude, or a total requirement of 2,344,000 barrels. During the week ending November 8, the actual refinery throughput was approximately in balance with the prescribed figure.

Stocks of gasoline increased 251,000 barrels last week, according to returns received from the refining companies by the American Petroleum Institute. The reported total on hand November 15 was 37,263,000 barrels, whereas the total for the preceding week was 37,012,000 barrels. The ease with which gasoline stocks increase, as a result of unfavorable weather

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING NOVEMBER 8, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	3,374,000	482,000	78.7	5,705,000	11,878,000
Appalachian	141,300	131,700	93.2	514,000	73,400	55.7	824,000	990,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	1,658,000	236,900	62.2	4,471,000	3,946,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,737,000	248,100	60.2	2,215,000	4,577,000
Texas	809,000	743,500	91.9	3,656,000	522,300	70.2	6,450,000	10,558,000
Louisiana-Arkansas	266,600	262,000	98.3	1,040,000	148,600	56.7	1,217,000	2,062,000
Rocky Mountain	150,100	139,700	93.1	310,000	44,300	31.7	1,532,000	1,027,000
California	898,500	883,600	98.3	3,633,000	519,000	58.7	14,598,000	103,982,000
Total Week Nov. 8	3,730,100	3,566,400	95.6	15,922,000	2,274,600	63.8	37,012,000	139,020,000
Total Week Nov. 1	3,730,100	3,566,400	95.6	15,971,000	2,281,600	64.0	37,215,000	139,626,000
The total U. S. figures for last year, shown immediately below, are not comparable with this week's totals because of difference in percentage capacity reporting.								
Total Nov. 9, 1929*	3,678,700	3,490,200	94.9	18,476,000	2,639,500	75.6	33,645,000	145,522,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	529,500	529,500	100.0	2,872,000	410,300	77.5	5,242,000	7,787,000
Louisiana Gulf Coast	147,500	147,500	100.0	744,000	106,300	72.1	991,000	1,105,000

*Final revised.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 4th Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending November 15, 1930	Excess
Arkansas	59,518	59,518	51,950	—7,568
California	654,034	594,000	601,800	7,800
Kansas	115,407	105,554	111,700	6,146
Louisiana	57,704	57,704	70,000	12,896
Oklahoma	653,252	550,000	506,350	—43,650
Texas	767,167	765,000*	742,750	—21,250
Balance of U. S.	230,000	230,000	218,400	—11,600
Total	2,537,082	2,371,776	2,304,550	—67,226

*New limit account reduction of 10,000 barrels in Panhandle district ordered by Railroad Commission.

conditions, shows that refiners cannot afford to ignore the facts that have been so carefully studied out for them by the committee appointed by the Federal Oil Conservation Board. It is believed that continued adherence to the schedule outlined by this committee will effectively reduce stocks of gasoline by April 1, 1931. Ups and downs in gasoline stocks, affected by weather conditions are relatively unimportant. The goal for the industry lies in bringing gasoline stocks down to a normal level by April 1, 1931, and the course to that goal is along the path of sound economics that indicates the limits of still runs.

California Crude and Refined Market Both Weak

The California market structure is weaker than it was a month ago, with both crude and gasoline participating in the heaviness. Oil production has shown only a slight increase but demands hardly justify the present output of crude. The daily average would be ideal if past periods of overproduction had not built up heavy stocks which are now standing in the way of stabilization.

Playa del Rey is producing close to 40,000 barrels and this excess is weakening the market in other fields. This townlot crude is being widely scattered and each barrel is replacing one which would normally be produced in more settled fields. Peak production is undoubtedly near at hand and a decline should be recorded soon. Efforts to prorate production there have been partially successful and operators have been promised a regular posted price schedule if they will cut their full percentage and come into the curtailment fold. The field output is not large when compared with other critical areas, but production is just large enough to create a troublesome excess.

California crude prices are considered out of line with those in certain Mid-Continent fields but no reduction will be posted before early next year, and even then present prices will hold if the state output is held fairly well in check. The spread between crude and gasoline prices is also considered out of line by some economists and future adjustments probably will be made by lowering gasoline prices rather than by changing crude quotations. Inventory losses would be sustained if a lower schedule should be posted during this year.

Another gasoline price war is threatened all along the Pacific Coast but major companies believe that extremely low prices will be averted.

Maintenance of former gasoline and crude prices in California, while the Mid-Continent and Eastern States are experiencing lower prices, creates a disparity which is more or less obvious to market students. Shell Oil Company has opened up a new heavy oil field in the Weed Patch district near Bakersfield. The discovery well is flowing 1100 barrels.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended Nov. 8		Week Ended Nov. 1
AT ATLANTIC COAST PORTS—			
Baltimore	244,000	"A"	65,000
Boston	80,000		68,000
New York	951,000		983,000
Philadelphia	351,000		275,000
Others	122,000		132,000
Total	1,748,000		1,523,000
Daily Average	249,714		217,571
AT GULF COAST PORTS—			
Galveston District	.....		.....
New Orleans & Baton Rouge	80,000		135,000
Port Arthur & Sabine District	.....		86,000
Tampa	.....		.....
Total	80,000		221,000
Daily Average	11,429		31,571
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MARKET SECTION

Mid-Continent Gasoline Steady; Jobbers Buying Cautiously

The Mid-Continent gasoline market was steady during the past week with .04½ cents a minimum price for Group 3 and ranging upward to .05¼ cents. Jobbers are showing no disposition to fill storage but continue to buy in one- and two-car lots. General opinion seems to indicate the belief that this plan of buying will probably continue through the season of slack demand and that it will tend to improve the market structure by causing a greater demand at the time of year when greatest consumption is approaching. Filling of storage by jobbers might be misinterpreted as an increase in demand and result in additional runs to stills thereby resulting in excess refinery stocks.

Runs to storage and withdrawals are approximately in equilibrium, with crude buyers exerting every effort to give relief to all areas by trading connections. The present outlet scheduled for the Oklahoma City pool is 120,000 barrels daily, an increase of about 35,000 barrels during the past few weeks. The full schedule is not being moved at the present time but will be put into effect as soon as purchasers are able to adjust their takings in various other pools of the state. The first week of proration of small wells on the marginal plan resulted in a cut of about 8000 barrels for Southern Oklahoma and between 30,000 and 35,000 barrels for the whole state. The original proration plan anticipated a cut of approximately 50,000 barrels daily and this amount of restriction probably will be obtained within the next week or two when operators in the various districts have had sufficient time to work out details.

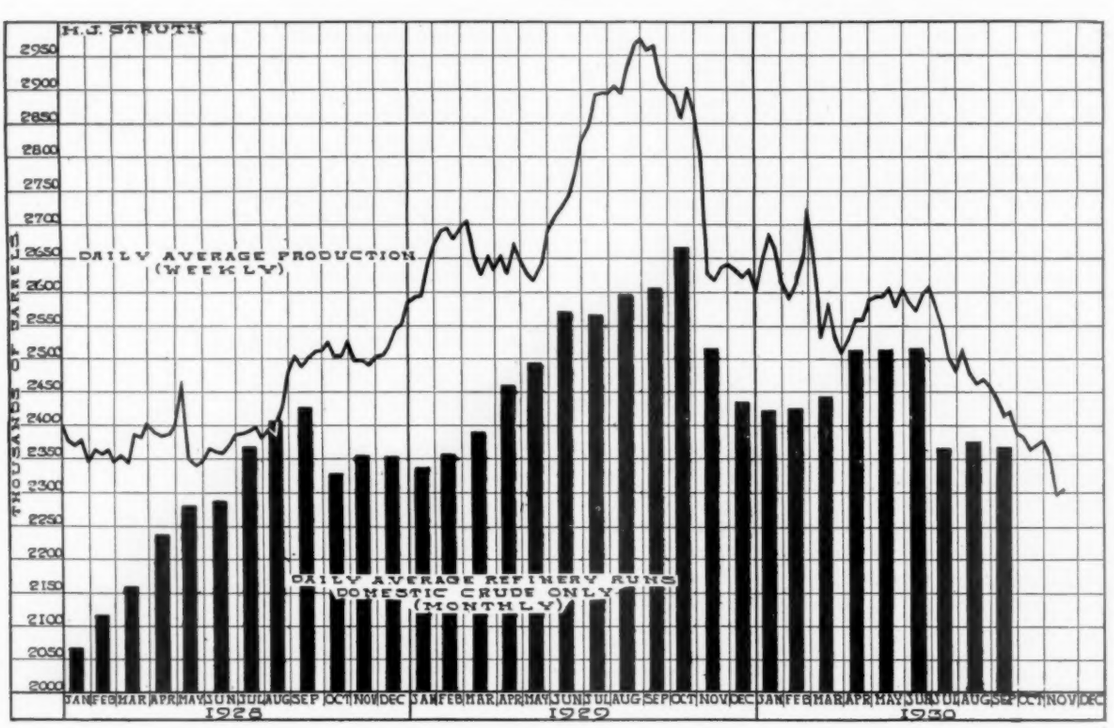
North Texas Refiners Persist in Breaking Crude Prices

Price quotations on refined oil products in North Texas are holding close to the levels maintained the previous week, with a fairly good demand prevailing for gasolines. Domestic jobbers have furnished sufficient support for the gasoline market to hold prices at an even level during November, but the volume of trading is not sufficient to enable plant owners to make headway in advancing prices. U. S. motor gasoline is plentiful with a price range of 4½ to 5 cents per gallon, while popular grades of fuel oil are netting plant owners an average price of 50 cents per barrel.

Considerable criticism is being directed at North Texas refiners because of their widespread practice of making contracts with producing units in need of crude market relief at 10 to 35 cents per barrel below the generally accepted posted price. The disturbed condition of the North Texas crude market now enables plant owners to literally dictate the price terms on crude transactions, and many producers accede in order to get market relief.

Change in ownership of one of the largest groups of independently owned bulk and retail stations in Texas is to occur December 1 as result of Marathon Oil Company

DOMESTIC PRODUCTION AND REFINERY RUNS



MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November 1	524,500	114,350	615,050	193,150	42,900	53,050	121,400	103,050	595,600	2,363,050	16,541,350
November 8	489,650	117,550	587,550	188,900	43,900	52,050	119,300	101,450	596,900	2,297,250	16,080,750
November 15	506,350	111,700	581,350	188,950	44,050	51,950	117,300	101,100	601,800	2,304,550	16,131,850
Increase	16,700	.....	.....	50	150	....	.....	.....	4,900	7,300	51,100
Decrease	.....	5,850	6,200	.....	....	100	2,000	350	.....	.....	.....

TEXAS (Outside Gulf Coast)

PANHANDLE DISTRICT

	Nov. 15	Nov. 8
Carson County	6,350	6,900
Gray County	52,500	57,100
Hutchinson County	15,150	18,000
Wheeler County	600	800
Others	250	1,350
Total	74,850	84,150

NORTH TEXAS

Archer County	13,500	13,300
Burkburnett	7,600	7,800
Electra	10,100	10,350
Iowa Park-KMA	4,450	4,550
Montague and Cooke Cos.	9,300	9,300
Wilbarger	17,000	15,500
Others	1,800	1,800
Total	63,750	62,600

WEST CENTRAL TEXAS

Brown County	5,100	5,200
Callahan County	3,100	3,100
Coleman County	2,400	2,450
Eastland-Desdemona	4,900	4,950
Jack County	2,000	2,200
Palo Pinto County	450	450
Shackelford County	5,200	5,200
Stephens County	5,400	5,400
Throckmorton County	750	650
Young County	11,000	14,500
Others	2,000	2,000
Total	42,300	46,100

WEST TEXAS

Crane-Upton Counties	35,200	35,900
Crockett County	2,050	2,100
Ector	4,850	5,250
Howard County	28,000	29,400
Jones County	1,400	1,400
Mitchell-Scurry Cos.	2,200	2,200
Pecos County	2,800	3,050
Reagan County	26,250	26,150
Winkler County	57,150	58,100
Yates	99,700	102,600
Others	6,500	6,550
Total	266,100	272,700

EAST CENTRAL TEXAS

Boggy Creek	2,400	2,600
Corsicana-Powell	5,200	5,400
Currie	300	300
Mexia	3,900	4,100
Nigger Creek	150	200
Richland	150	200
Van Zandt	27,800	27,550
Wortham	600	700
Others	200	...
Total	40,700	41,050

SOUTHWEST TEXAS

Chapman-Abbott	7,000	8,300
Dale	300	300
Darst Creek	43,250	30,500
Laredo District	14,600	13,550
Luling	9,750	9,850
Lytton Springs	800	800
Salt Flat	16,000	15,600
Somerset	1,300	1,500
Others	650	550
Total	93,650	80,950
T'tl Tex. (Outside Gulf Coast)	581,350	587,550

TEXAS GULF COAST

Barbers Hill	21,150	19,400
Batson	1,100	1,150
Big Creek	3,400	3,400
Blue Ridge	1,600	1,650
Boling	950	950
Damon Mound	700	700
Esperson	2,750	3,000
Fannett	650	650
Goose Creek	4,350	4,250
Hankamer	2,100	2,200
Hull	8,100	7,800
Humble	13,300	13,900
North Dayton	1,150	1,700
Orange	2,050	2,100
Orchard	2,100	2,300
Pettus	8,800	8,300
Pierce Junction	10,100	11,150
Port Neches	1,600	1,500
Raccoon Bend	8,850	8,350
Refugio	27,200	26,500
Saratoga	1,200	1,200
Somerville	1,100	1,100
Sour Lake	2,100	2,200
South Liberty	3,000	3,100
Spindle Top	14,350	14,500
Sugar Land	11,950	12,000
West Columbia	4,300	4,150
Others	2,400	2,450
Total	162,400	161,650
Texas Total	743,750	749,200

OKLAHOMA

Allen	13,800	14,100
Asher	1,050	1,000
Blackwell	2,350	2,900
Bowlegs	14,450	13,400
Braman	2,050	2,900
Bristow Slick	12,350	13,500
Burbank	14,150	14,800
Carr City	13,200	9,300
Cromwell	6,300	6,550
Cushing	12,250	12,750
Davenport	900	1,000
Duncan District	7,800	8,250
Earlsboro	20,950	14,950
East Earlsboro	19,250	14,500
East Little River	11,650	12,100
East Seminole	2,250	2,100
Fox	800	1,150
Garber	4,400	4,400
Graham	2,850	3,050
Healdton	10,400	11,450
Hewitt	5,600	6,650
Hubbard	1,100	1,200
Konowa	16,650	16,500
Little River	24,900	22,750
Logan Co.	3,150	4,650
Maud	3,150	3,050
Mission	8,150	5,450
North Okmulgee	9,500	9,900
Okla. City	85,000	66,750
Osage (outside Burbank)	24,550	24,400
Papoose	2,300	2,400
Pearson	500	650
St. Louis	22,900	22,200
Sasakwa	4,550	4,900
Scholem Alechem	9,450	13,450
Searight	6,850	6,850
Seminole	14,350	13,400
S. Earlsboro	11,550	8,650
South Okmulgee	6,250	6,600
Thomas	400	650
Tonkawa	5,000	5,800
West Asher	9,900	10,500
Wewoka	4,600	5,000
Yale Jennings	5,750	6,650
Others	47,050	56,500
Total	506,350	489,650

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	33,200	33,000
Huntington Beach	28,000	28,000
Inglewood	15,300	15,300
Kettleman Hills	25,700	25,500
Long Beach	100,200	98,600
Midway-Sunset	59,500	59,000
Playa Del Rey	38,000	35,000
Santa Fe Springs	95,400	96,300
Seal Beach	18,000	18,400
Ventura Avenue	46,500	46,300
Others	132,000	131,500
Total	601,800	596,900

KANSAS

Augusta-Fox Bush	2,700	2,850
Churchill	3,450	3,500
Eldorado-Towanda	13,800	13,900
Florence-Covert	700	800
Greenwood County	17,150	19,000
Oxford	2,450	2,450
Peabody-Ebling	2,300	2,350
Rainbow Bend	1,000	1,050
Russell	3,050	3,050
Sedgewick	27,050	28,600
Voshell	6,550	6,000
Others	31,500	34,000
Total	111,700	117,550

NORTH LOUISIANA

	Nov. 15	Nov. 8
Caddo Heavy	2,750	2,700
Caddo Light	8,200	8,400
Carterville	2,350	2,500
Cotton Valley	1,850	1,850
De Soto-Red River	2,900	2,900
Haynesville	5,250	5,250
Holly	1,100	1,200
Homer	3,350	3,350
Urania	5,300	5,350
Zwolle	9,300	8,700
Others	1,700	1,700
Total North Louisiana	44,050	43,900

LOUISIANA GULF COAST

Bayou Boullion	150	200
East Hackberry	1,900	2,050
Edgerly	400	400
Evangeline	2,000	2,000
Hackberry	900	800
Lake Barre	2,300	2,400
Lockport	4,500	3,900
Port Barre	2,500	2,550
Sorrento	50	50
Sulphur Dome	2,700	2,600
Sweetlake	1,150	1,150
Vinton	4,850	5,500
White Castle	1,050	1,050
Others	2,100	2,600
Total Louisiana Gulf Coast.	26,550	27,250
Louisiana Total	70,600	71,150

ARKANSAS

Champagnolle	3,500	3,450
El Dorado	3,900	3,900
Lisbon	900	900
Nevada	1,000	1,000
Smackover Heavy	34,700	35,800
Smackover Light	4,850	4,850
Stephens	900	900
Others	2,200	1,250
Total	51,950	52,050

MOUNTAIN STATES

WYOMING

Big Muddy	2,050	2,050
Elk Basin	800	800
Grass Creek	2,150	2,150
La Barge	1,650	1,800
Lance Creek	250	250
Lost Soldier	3,050	3,150
Oregon Basin	2,500	2,550
Rock River	2,100	2,100
Salt Creek	28,100	28,900
Others	4,250	4,100
Total	46,900	47,850

MONTANA

Cat Creek	1,150	1,100
Pondera	1,200	1,650
Sunburst	2,550	2,550
Others	50	50
Total	4,950	5,350

COLORADO

Florence	450	400
Fort Collins	1,150	1,100
Moffats (Craig)	1,150	1,300
Others	1,450	1,500
Total	4,200	4,300

NEW MEXICO

Artesia	550	550
Balance Lea County	6,600	7,400
Hobbs High	36,100	34,200
Hogback	450	450
Rattlesnake	1,150	1,150
Table Mesa	100	100
Eddy	100	100
Total	45,050	43,950
Total Mountain States	101,100	101,450

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	110,000	112,000
Michigan	7,300	7,300
Total Eastern States	117,300	119,300

PRODUCTION SUMMARY

East of Rockies	.....	1,598,900
Total U. S.	2,304,550	2,297,250

MARKET SECTION

Weekly Comparisons of Permits Granted for New Wells

States—	Week Ending November 15	Previous week	This week 1929	Total this Month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	..	5	3	5	..	97	148	159
California	14	24	21	38	56	826	1,134	1,231
Louisiana	11	15	23	26	65	880	826	903
Kansas	15	19	10	34	52	886	987	1,079
Oklahoma	49	47	60	96	218	2,651	3,155	3,578
Texas	133	67	178	200	545	6,582	7,799	8,697
Total	222	177	295	399	939	11,922	14,049	15,647

(Ohio Oil Company), acquiring the properties of Three D's Products Distributors, Inc., Fort Worth. The latter concern's distribution is largely in and near Fort Worth, and the products have been obtained by trucks from the Electra plant of Waggoner Refining Company. Controlling interest in the Del Rio Refining Company's 2500-barrel skimming plant at Del Rio, Texas, and a marketing company that operates in West Texas and the Rio Grande valley also goes to Marathon Oil Company as part of the deal. Marathon Oil Company has the former Transcontinental plant at Fort Worth to support its marketing expansion in North Texas, while the Del Rio plant is connected directly with the Yates field by a trunk line also owned by Ohio Oil Company, which owns about 50 per cent of the production in the Yates field in the name of the Mid-Kansas Oil & Gas Company.

Oil Company Earnings Reflect Depression

New York, N. Y.—Earnings statements of oil companies for the nine-month period ending September 30, 1930, show the effect of the depression that has pervaded the petroleum industry this year. Although only a few financial reports have thus far been made available to the public, the results are decidedly disappointing, in comparison with last year.

Net profits of seven large companies just received show a marked slump in comparison with last year. For example, total net profits for the first nine months of this year for seven companies aggregated $7,095,160 against $35,225,000 for the same period of last year. Following is a tabulation of net profits reported by seven companies for the first nine months of this year, compared with the same period of last year:

	Net Profit—First 9 Months 1930	1929
Panhandle Producing & Refining Co.	$ 247,972*	$ 129,874
Simms Petroleum Co.	195,523*	1,306,634
Tidewater Associated Oil Co.	3,988,263	5,344,467
Skelly Oil Co.	1,930,306	4,813,450
Shell Union Oil Co.	826,682	18,682,405
Wilcox Oil & Gas Co.	716,216	421,283
Louisiana Oil Refining Corp.	77,188	1,526,887
*Loss	$7,095,160	$35,225,000

Summarized Review of Field Results

State—	Completions This week.	Completions Last week.	Oil Wells This week.	Oil Wells Last week.	Gas Wells This week.	Gas Wells Last week.	Failures This week.	Failures Last week.	Initial Prod. This week.	Initial Prod. Last week.
Arkansas	3	2	1	..	..	1	2	1	23	...
California	20	31	18	27	..	..	2	4	9,300	12,830
Illinois	3	7	1	4	..	1	2	2	30	75
Indiana	4	1	1	1	2	..	1	..	1	20
Kansas	11	14	5	3	3	8	3	3	6,605	515
Kentucky	17	15	9	11	4	2	4	2	345	1,283
Louisiana	15	21	2	7	8	4	5	10	675	2,136
Michigan	2	2	1	2	..	..	1	..	150	453
Mississippi	..	4	..	..	..	3	..	1	...	...
New Mexico	5	7	4	5	..	1	1	1	24,883	50,884
New York	4	..	4	..	..	..	..	..	32	...
Ohio	30	39	16	15	7	14	7	10	175	225
Oklahoma	60	38	20	25	14	2	26	11	125,907	79,064
Pennsylvania	30	2	20	..	8	1	2	1	89	...
Texas	93	86	47	46	9	6	37	34	18,337	34,836
West Virginia	10	9	..	2	8	7	2	..	...	7
Alabama	1	..	..	..	..	..	1	..	...	...
Total	308	279	149	148	63	50	96	81	186,552	182,328
Increase	29	..	1	..	13	..	15	..	4,224	...
Decrease	..	..	..	..	..	..	..	..	...	...

MARKET SECTION

Crude Oil Price Quotations

(Revised to November 18, 1930)

CRUDE PRICE CHANGES

Effective November 13, Joseph Seep Purchasing Agency posted a reduction of 15 cents a barrel on all grades of Pennsylvania crude. On the same date, Tidewater Pipe Co., Ltd., posted a reduction of 15 cents a barrel on Bradford and Allegany crudes.

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Nov. 13, 1930) $2.15

Penna. Grade Oil in National Transit Lines (Other Pennsylvania) (Effective, Nov. 13, 1930) 1.85

Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) (Effective Nov. 13, 1930) 1.80

Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Nov. 13, 1930) 1.70

Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Nov. 13, 1930) 1.45

Wayne district crude in Cumberland lines (West Virginia) (Effective July 23, 1930) 1.17

Corning Grade in Buckeye Pipe Lines (Ohio) (Effective Oct. 28, 1930)..... 1.25

Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective July 23, 1930). 1.30

Somerset Oil in Eureka Pipe Lines (Effective July 23, 1930) 1.14

Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929)... 0.60

*Oil run prior to July 1, 1929 is $2.10 per bbl.

(Posted by Stoll Oil Refining Company)

Oil City, Ky., oil in Stoll lines (Effective July 25, 1930) 1.35

MICHIGAN

(Posted by Dixie Oil Company)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, on gravity basis prior to reduction on Oct. 27, 1930.

(Posted by Pure Oil Company)

Midland, Midland County ,Aug. 21, 1930). $1.30

CENTRAL STATES FIELDS

(Posted by Ohio Oil Company)
(Effective Oct. 28, 1930)

Wooster	$1.35	Princeton	1.30
Lima	1.10	Illinois	1.30
Waterloo	1.20	Plymouth	.88
Indiana	.87	W. Kentucky	1.15

CANADIAN CRUDE

(Posted by Imperial Oil Refineries, Ltd.)
(Effective October 28, 1930)

Petrolia $1.50
Oil Springs 1.57

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co., and Stanolind Crude Oil Purchasing Company, Effective Nov. 1, 1930. Carter Oil Company Same Schedule Effective Oct. 28.

Below 29	$0.65	29-29.9	.69
30-30.9	.73	36-36.9	.95
31-31.9	.77	37-37.9	.98
32-32.9	.81	38-38.9	1.01
33-33.9	.85	39-39.9	1.04
34-34.9	.89	40 and above	1.07
31-31.9	.92		

Magnolia Petroleum Company Effective October 28.

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same schedule as above.

NORTH TEXAS

Posted by All Purchasers Except Magnolia Petroleum Company

Ranger, North Texas, Van, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran, and Nocona crudes:

Below 29	$ .65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above	1.07
34-34.9	.89		

Magnolia Petroleum Company, Effective October 28

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same as schedule above.

(Continued on page 66)

Crude Oil Prices at the Well

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canou	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.76			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21 9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24-9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62							1.53				1.59	1.39		34-34.9
35-35.9							1.66							1.58				1.65	1.43		35-35.9
36-36.9							1.72							1.63							36-36.9
37-37.9							1.78							1.68							37-37.9
38-38.9							1.84							1.73							38-38.9
39-39.9							1.90							1.78							39-39.9
40-40.9							1.96														40-40.9
41.41.9							2.02														41.41.9
42-42.9							2.08														42-42.9

F. O. B. Ship

KETTLEMAN HILLS*	
35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company.

MARKET SECTION

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 65*)

PANHANDLE

Posted by All Purchasers, Effective Oct. 28, 1930

Gray County Crude

Below 29	$ .50	35-35.9	.77
29-29.9	.54	36-36.9	.80
30-30.9	.58	37-37.9	.83
31-31.9	.62	38-38.9	.86
32-32.9	.66	39-39.9	.89
33-33.9	.70	40 and above	.92
34-34.9	.74		

Carson and Hutchinson County Crudes

Below 29	$ .45	35-35.9	.72
29-29.9	.49	36-36.9	.75
30-30.9	.53	37-37.9	.78
31-31.9	.57	38-38.9	.81
32-32.9	.61	39-39.9	.84
33-33.9	.65	40 and above	.87
34-34.9	.69		

WEST TEXAS

Posted by All Purchasers, Effective October 28, 1930

Winkler and Pecos County Crudes:

Below 25	$ .55	31-31.9	.69
25-25.9	.57	32-32.9	.71
26-26.9	.59	33-33.9	.73
27-27.9	.61	34-34.9	.75
28-28.9	.63	35-35.9	.77
29-29.9	.65	36 and above	.79
30-30.9	.67		

Crane, Upton, Crockett, Ector, Ward, Loving, Mitchell,* Howard, and Glasscock Counties, Texas, and Lea County, New Mexico crudes

Posted by All Purchasers, Effective Oct. 28, 1930

Below 25	$ .50	31-31.9	.64
25-25.9	.52	32-32.9	.66
26-26.9	.54	33-33.9	.68
27-27.9	.56	34-34.9	.70
28-28.9	.58	35-35.9	.72
29-29.9	.60	36 and above	.74
30-30.9	.62		

*Magnolia Petroleum Company uses Gravity scale and Coltex Refining Company pays flat price of 60 cents for Mitchell County.

GULF COAST

(Posted by Humble Oil & Refining Company, The Texas Company and Sun Company)

Gulf Coast Crude will be classified as follows in fields designated below:

Goose Creek, Hull, Boling, Liberty, Orange, Pierce Junction, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugar Land, West Columbia and Humble crudes:

"A" GRADE—All crudes conforming to the following tests:

Viscosity—Not less than 100 seconds at 100° F. Saybolt.

Sulphur—Not over .4%.

Beaume Gravity—Not over 25 at 60° F.

Cold test of distillates having a viscosity of 1000 seconds at 100° F, shall not be over 5° F.

"A" GRADE—$1.00.

"B" GRADE — Embraces all Coastal crude which does not meet the test for "A" grade crude:

Below 25	$ .75	33-33.9	1.08
25-25.9	.92	34-34.9	1.10
26-26.9	.94	35-35.9	1.12
27-27.9	.96	36-36.9	1.14
28-28.9	.98	37-37.9	1.16
29-29.9	1.00	38-38.9	1.18
30-30.9	1.02	39-39.9	1.20
31-31.9	1.04	40 and above	1.22
32-32.9	1.06		

Markham (The Texas Company) ..... .75

Posted by Gulf Pipe Line Company, Effective October 30, 1930

High Island	$ .75		
Grade "A"	.80		
Grade "B"			
Below 25	$ .69	33-33.9	.87
25-25.9	.71	34-34.9	.89
26-26.9	.73	35-35.9	.91
27-27.9	.75	36-36.9	.93
28-28.9	.77	37-37.9	.95
29-29.9	.79	38-38.9	.97
30-30.9	.81	39-39.9	.99
31-31.9	.83	40 and above	1.01
32-32.9	.85		
Jennings, La.	.80		

SOUTHWEST TEXAS

Posted by All Purchasers, Effective Oct. 28, 1930

Refugio Heavy crude, below 25 gravity.. .75

Refugio Light crude:

25-25.9	$ .92	33-33.9	1.08
26-26.9	.94	34-34.9	1.10
27-27.9	.96	35-35.9	1.12
28-28.9	.98	36-36.9	1.14
29-29.9	1.00	37-37.9	1.16
30-30.9	1.02	38-38.9	1.18
31-31.9	1.04	39-39.9	1.20
32-32.9	1.06	40 and above	1.22

Mirando crude ..... $. 75
Salt Flat crude ..... .90
Darst Creek crude ..... .90
Pettus crude 1.10
Luling ..... .75
Corsicana, heavy ..... .75

Determination of quality, deductions, adjustment for temperature, etc., on oil purchased in Texas, shall be in accordance with the rules and regulations of the Texas Railroad Commission, and on oil purchased in New Mexico shall be in accordance with the rules and regulations of the Corporation Commission of New Mexico.

LOUISIANA-ARKANSAS

All Purchasers Except Magnolia Petroleum Co., Effective Oct. 29, 1930

Pine Island District, Haynesville District, Bull Bayou District, El Dorado District, Rainbow District, Cotton Valley

Below 29	$ .65	37 to 37.9	.98
29 to 29.9	.69	38 to 38.9	1.01
30 to 30.9	.73	39 to 39.9	1.04
31 to 31.9	.77	40 to 40.9	1.07
32 to 32.9	.81	41 to 41.9	1.10
33 to 33.9	.85	42 to 42.9	1.13
34 to 34.9	.89	43 to 43.9	1.16
35 to 35.9	.92	44 and above	1.19
36 to 36.9	.95		

Urania, La. ..... .75
Bellevue, La. 1.00

Magnolia Petroleum Company, Effective October 30, 1930

Below 26	$ .53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here prices same as schedule above.

STEPHENS

Below 29	$ .54	31 to 31.9	.66
29 to 29.9	.58	32 and above	.70
30 to 30.9	.62		

Smackover ..... .70
El Dorado, East Field ..... .70

ROCKY MOUNTAIN FIELDS

(Salt Creek prices effective April 10, 1930)

‡Salt Creek	29-29.9	$1.00
" "	30-30.9	1.05
" "	31-31.9	1.10
" "	32-32.9	1.15
" "	33-33.9	1.185
" "	34-34.9	1.22
" "	35-35.9	1.255
" "	36-36.9	1.29
" "	37 and above	1.325

Elk Basin (Effective Oct. 28, 1930) 1.25
Grass Creek light 1.25
Big Muddy 1.00
Lance Creek 1.33
Rock Creek 1.01
Mule Creek 1.20
Rex Lake 1.10
‡Osage 1.25
‡Cat Creek, Montana 1.55
Pondera 1.45
Sunburst, Montana 1.55
‡Hogback, New Mexico 1.40
Artesia, New Mexico ..... .75

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

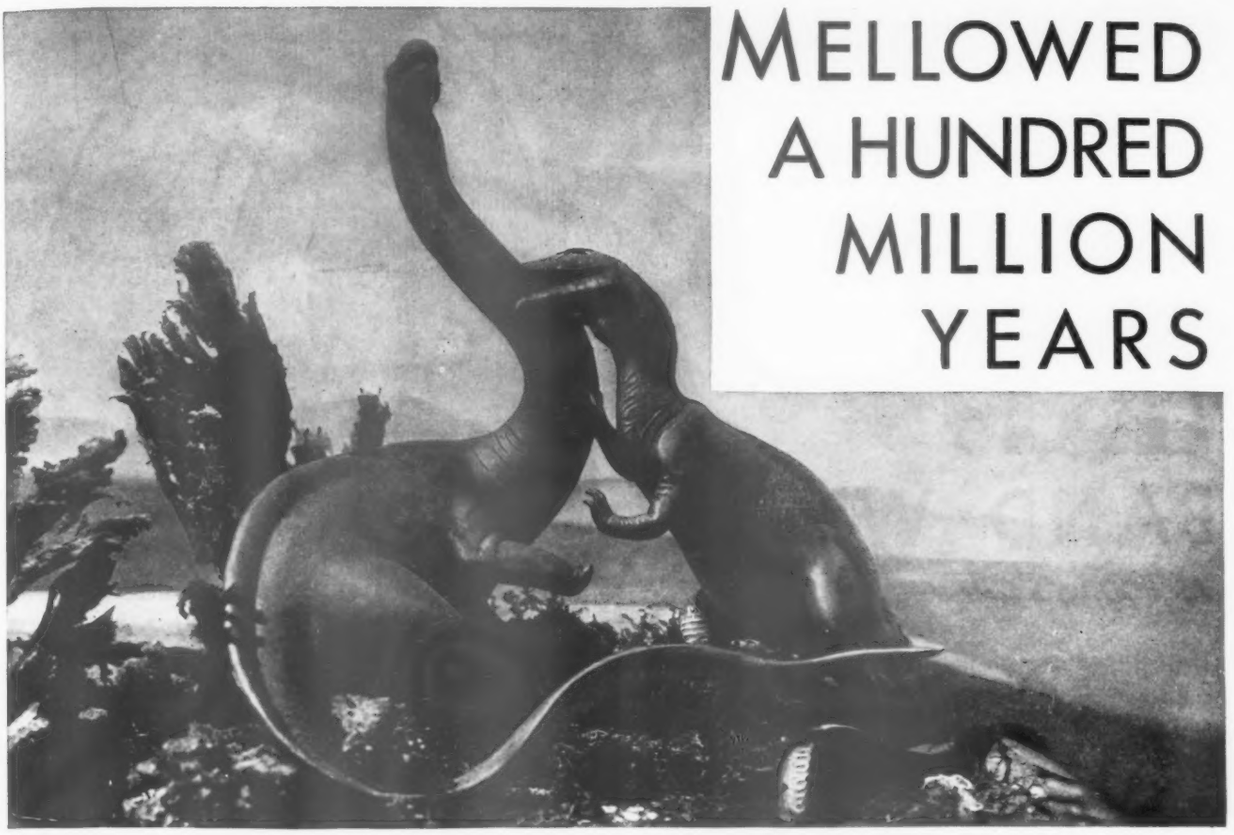
Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

Roy E. Zint and Wm. H. Kohler have recently ben added to the field sales force of Crum-Brainard Company of Whittier, California. Mr. Zint for several years was sales manager for H. C. Smith Manufacturing Company, later being connected with Globe Oil Tool Company. Mr. Kohler has had 30 years experience in selling to the producing branch of the industry in California. In recent years he has been giving his attention to the coring service, and in his new position will have charge of the coring truck and coring service.



MELLOWED A HUNDRED MILLION YEARS

At last . . . a pure PENNSYLVANIA grade motor oil for easy starting . . . AND EASY SALES . . . in winter!

Motorists by the thousands saw this startling, striking series of prehistoric monsters . . . in magazines, newspapers and rotogravures from coast to coast. Then that line *"Mobiline is guaranteed to flow at zero"* caught their eyes. And now they ask for Sinclair Mobiline!

No longer need your Pennsylvania oil customers change to another motor oil for winter driving. The wax that thickens and hardens Pennsylvania oils on cold, wintry days is virtually stripped from Mobiline at as low as 60° F. below zero. This dewaxing process, requiring new oil separators whirling at 15,000 revolutions a minute, takes place in the Sinclair refinery at Wellsville, N. Y. . . . the newest and largest single refinery using Pennsylvania grade crude exclusively.

Here Sinclair Mobiline is refined 100% from Bradford-Allegany crude...formed in the Devonian Age, a hundred million years ago . . . the costliest of all Pennsylvania crudes! Here this famous crude is triple-filtered to remove all carbon-forming compounds . . . Mobiline retains its clear greenish color long after other oils have turned black in the crankcase.

Just think it over . . . this striking sales story behind Sinclair Mobiline! You can't beat it! With Sinclair Mobiline this winter you get away from cold weather complaints . . . and get more satisfied, steady customers. Stock up now — winter's here!

Sinclair Refining Company (Inc.), New York, Atlanta, Chicago, Fort Worth, Houston, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Company of California, Los Angeles.

SINCLAIR MOBILINE

Reg. U. S. Pat. Off. 1905, Renewed 1925

Pennsylvania MOTOR OIL

Made in the newest, largest single refinery using PENNSYLVANIA grade crude exclusively.

Guaranteed by SINCLAIR REFINING CO. INC. to be 100% pure PENNSYLVANIA GRADE OIL

35¢ *per quart*

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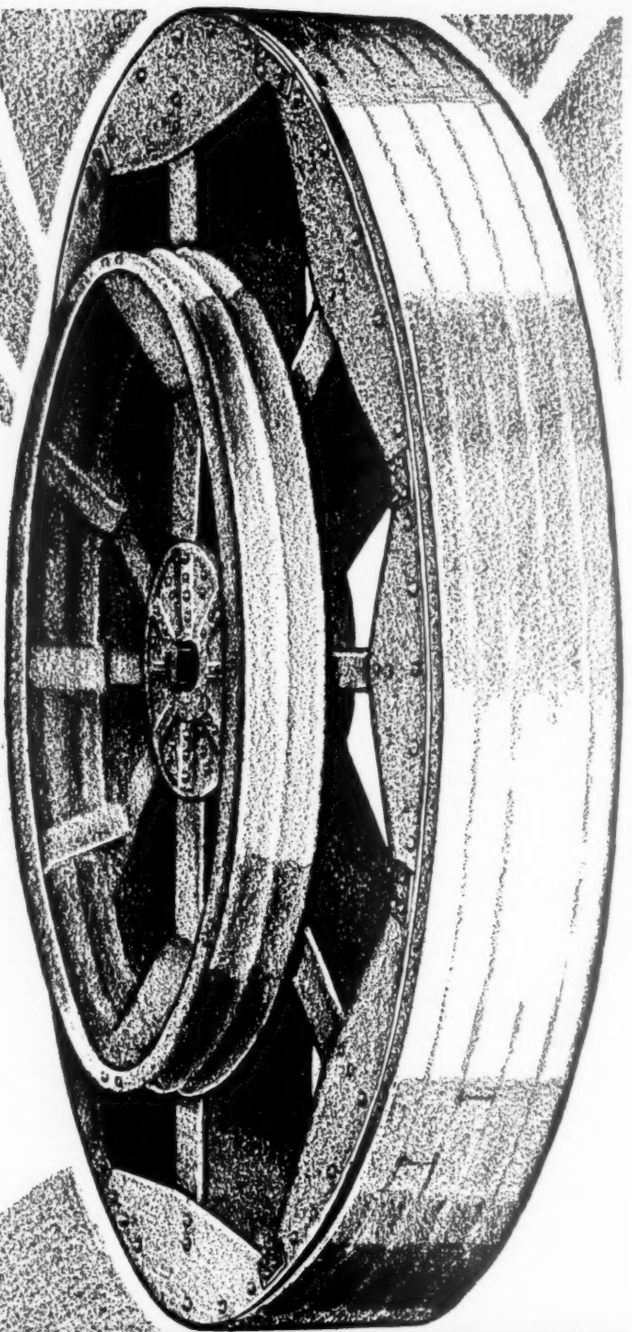

Moore

BAND WHEEL

AS GOOD AS THE CHAMPION DERRICK

The full rigid strength which the proper use of steel will give is built into this wheel at the plant, and it is shipped in one piece ready to be mounted on the shaft. It has steel plate rims and rolled steel channel spokes with heavy reinforcement at the flange. The latter is of one piece in heavy duty wheels. There are no bolts in the flange, machine driven rivets through spokes and angle reinforcements carrying the heavy loads at this point. One-inch wood cants are used.

Moore Tug Rim

The tug rim, which is part of the above wheel, also gives long, economical service when used on wooden band wheels. The Moore rim is of one piece, rolled steel with double V groove tug. Heavy plate brackets are electrically welded to the rim. Standard diameter is 7′.

Moore

ALL STEEL RIG EQUIPMENT

LEE C. MOORE AND COMPANY, INC.

PITTSBURGH Established 1907 TULSA

New York Offices: Oilfield Equipment Company, 30 Church Street, New York, N. Y.

DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.

SHREVEPORT, LA. HOUSTON, TEXAS

Stocks in All Principal Fields

PERSONAL MENTION-MEN YOU KNOW

Fred M. Lege, Jr., president of Magnolia Gas Company prior to its sale last April by Magnolia Petroleum Company, has been appointed director of sales promotion for the latter concern, with headquarters at Dallas. Lege is a member of the board of directors of Magnolia Petroleum Company, and in recent months has been manager of the company's natural gasoline and carbon black plants.

B. E. Moorehart, one of the oldest members of Frick-Reid Company in point of service, has recently been given charge of the company's Fort Worth office, handling city sales. Moorehart, who has been manager of various districts from time to time in the Frick-Reid organization, has retired from field work due to illness during the past year. F. W. Brigance, who formerly was in charge of the Fort Worth office, has moved to Tulsa with the company.

Edward C. Waldvogel, a vice-president and director of The Yale & Towne Manufacturing Company, and for many years previous to retirement from active business, director of that company's sales, died November 13 at his home in New Rochelle, New York.

R. L. Marek, associate petroleum engineer of the Bureau of Mines, headquartered at the San Francisco office, has returned to San Francisco after making an extended trip through the Mid-Continent in connection with the safety work of the bureau.

C. P. Bowie, supervising engineer of the San Francisco station of the Bureau of Mines, attended a meeting of the supervising engineers of the petroleum division of the bureau recently held at Bartlesville, Oklahoma. He also made an extended trip through the Mid-Continent fields in connection with various phases of the bureau's work.

Fred P. Shayes, formerly geologist for Houston Oil Company, has accepted a position, effective November 1, with the United Gas Company, and is now geologist for the latter's South Texas division, with headquarters in Beeville, his territory extending from Jackson and Calhoun Counties west and south to the Rio Grande.

Cassius Asa Fisher, aged 58, internationally famous geologist and mining engineer, died suddenly at his home in Denver on November 4. He is survived by his widow and three children. Mr. Fisher first became known through his work in the development of the Salt Creek oil field in central Wyoming, 1910-1913.

Roberto Raventos, who is connected with the Argentine government oil fields, is studying California production methods, temporarily making Los Angeles his headquarters.

C. Marinescu, superintendent of drilling for Steaua Romana Oil Company, with headquarters at Moreni, Roumania, is making a survey of California drilling practices. He has spent some time at the Oil Equipment and Engineering Exposition, while studying the permanent exhibits there.

Victor Dumitrescu, engineer in charge of production for Steaua Romana Oil Company of Campina, Roumania, is visiting California fields while making a study of American methods.

R. B. Dudley, gas engineer and geologist of San Antonio, Texas, has leased offices in Jackson, Mississippi, and is doing consulting work there.

Capt. J. F. Lucey, president of the Lucey Oil Corporation of Dallas, Texas, who was recently appointed regional relief director in the Southwest by Col. Arthur Woods, director of unemployment relief for President Hoover, has been assured by Harry F. Sinclair that the 22,000 employees of Sinclair Consolidated Oil Corporation will be permanently employed at least through the period of depression. Sinclair has initiated a movement to check the great amount of unemployment in the country by pledging employment to all members of the companies which he represents and it is expected that many other companies engaged in the oil industry will follow this example.

This pledge will not include those workers who are temporarily employed for construction projects after the projects are completed. This assurance to employees will allow them to return to their normal expenditures and will help business to regain its normal trend.

Houston Geological Society's New Officers

DR. J. BRIAN EBY
President

ALVA CHRISTINE ELLISOR
Vice-President

JOHN F. WEINZIERL
Secretary-Treasurer

The accompanying pictures show the present officers of the Houston Geological Society, elected in October. Dr. J. Brian Eby, formerly vice president of the organization, is the new president, succeeding George Sawtelle, and Miss Alva Christine Ellisor is vice president, while John F. Weinzierl is serving again as secretary-treasurer, having been re-elected in the recent election.

Dr. Eby is geologist for Shell Petroleum Corporation on the Gulf Coast. Miss Ellisor is the consulting research paleontologist with Humble Oil & Refining Company at Houston. Mr. Weinzierl is a consulting geologist, with offices in the Petroleum Building, Houston.

The Houston Geological Society is a particularly active association, composed of 123 members. A great deal of interest has been manifested during the past year in the activities of the organization, with luncheons held regularly every Tuesday, most of them featured by talks on interesting subjects by members or visitors.

It is the tradition of the society that the president gives a special annual entertainment, and under the recently ended Sawtelle administration the geologists were feted by John H. Kirby and Mr. and Mrs. J. Frederick Rawcliffe.

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Commission Inquires Into Gas Waste at Pettus

AUSTIN, Texas.—Alleged waste of natural gas in three wells in the Pettus townsite pool, Bee County, was investigated by state authorities November 12 at a hearing held here before the railroad commission, admitting protestants against the proration order now in force in that pool; but no definite action to prevent the waste was taken at that time, and operation of the wells will not be interferred with at least temporarily. J. B. Moncrief, umpire, Ralph Ogden, representing the Buchanan interests, A. B. Rubsam and C. E. Wilson, representing the T. B. Slick estate, appeared before the commission.

The commission contended that there was excessive waste of gas in three wells in the Pettus townsite; namely the Slick estate well in Block 19, producing 3,027,000 cubic feet of gas and 90 barrels of oil daily through a 32/64-inch choke, or 38,000 feet of gas to one barrel of oil; Houston Oil Company's No. 1 in Block 33, producing through a 3/8-inch choke 2,500,000 feet of gas and 100 barrels of oil, or 25,000 feet of gas to one barrel of oil; and Glasscock Brothers' No. 1, Block 24, producing through 38/64-inch choke 7,666,000 feet of gas and 30 barrels of oil, or 255,000 feet of gas to one barrel of oil. The oil in the latter well is 58 gravity, and in the two former wells 46 gravity.

Mr. Moncrief pointed out that when these wells were pinched in further there was a decrease in both gas and oil, but that the decrease in gas was less in proportion to the decrease in oil, which increased the gas-oil ratio. He said further that most of the wells in the pool were using less than 2000 feet of gas to lift one barrel of oil, and that in his opinion this waste was excessive. He felt that the high gravity of the oil in the Glasscock well was partially due to the gas content. He was in some doubt as to whether this should be classed as an oil or a gasoline well.

Mr. Wilson inquired how this gas-oil ratio compared with other fields in the state. Mr. Parker informed him that none had such a high ratio, but that many were wasting gas, and that the Texas Railroad Commission had been instructed to prosecute such parties and were doing so as rapidly as possible.

Mr. Wilson also pointed out that the complete shutting-in of these wells would render the cancellation of leases by lessees allowable. He stated further that the Glasscock interests had done this and were now paying the lessee a royalty of four or five dollars per day as if the well were operating. He stated that the royalty on his well would be much higher. He realized that such action would probably prove beneficial to other lessors in the field, but did not feel that he should stand the loss.

An investigation of 11 other producing wells in the field selected at random showed that they had a gas-oil ratio which varied from 2400 to one to as low as 836 to one.

Mr. Wilson further informed the commission that each of the companies represented in the meeting had already shut in one well in the field at the request of the umpire, demonstrating their sympathy with the conservation order. He stated that a gasoline plant and a gas line were being built into the field and that these would take care of some of the gas. The gas line was being tested at that time and was expected to be in operation by November 15. He stated also that he did not believe that this oil could be produced without the gas and that it would be permanently lost in the sands if it were not so recovered.

Mr. Ogden protested the ruling that wells being tested for proration should be left open for six hours and gauged for proration purposes only on the last three hours. He desired them to be gauged on all six hours, as some of the wells in the field decreased much more than others during the second three hours that they were left open, and he felt that all should be given the benefit of the heads. This objection was overruled by Mr. Parker.

There will be a new test of the wells in the field for potential production about November 28.

Relative to the three wells discussed above, Mr. Parker at the conclusion of the hearing announced that the present rules exempting those wells from proration would remain in force for the duration of the order, and that their combined production of 190 barrels should be included in the allowable of the field of 4500 barrels. He stated that he believed that they were wasting too much gas and that the commission would take the matter up with the attorney general of the state to determine future action. All parties agreed to conserve the gas at the first opportunity and to the full extent of their ability.

The Pettus proration order is for the period October 31 through December 31, and it divides the field into three separate areas, allotting 2700 barrels daily allowable to the Ray-McKinney area, 1250 barrels daily to the Cosden pool, and 4500 barrels daily to the Pettus townsite pool—a total of 8450 barrels for the whole area.

Texas Committee Figures Are Revised Downward

FORT WORTH, Texas.—A new report on the Texas production situation by major fields has been compiled by the Central Proration Committee, headed by David Donoghue, technical advisor, indicating that the crude demand is expected to be considerably less than present actual production of the state. Although the report is of a preliminary nature, it reflects the necessity for a further downward revision in proration schedules, as indicated by nominations of the purchasing companies within the state of Texas. Actual reports received from practically all of the purchasing companies in Texas show that crude nominations will probably not exceed 596,454 barrels daily, while additional estimated requirements from outside of the state are not expected to exceed 122,446 barrels, bringing the maximum daily market for Texas crude to 718,900 barrels. This is shown to be about 60,000 barrels less than the actual production recorded for the week ending November 1.

Following is a draft of the report prepared by the central proration committee, which will be submitted to the Texas Railroad Commission at the hearing to be held on Saturday, November 22:

Central Proration Committee Report of Texas Crude Nominations—Summary

	Production November 1,	Demand		
	1930 barrels	Nominated barrels	Estimated barrels	Total barrels
Panhandle	81,150	61,350	18,466	79,816
North Texas	63,100	51,832	6,015	57,847
West Central Texas	47,400	33,704	600	34,304
West Texas	283,550	203,187	46,690	249,877
East Central Texas	41,500	38,355	....	38,355
Southwest Texas	98,350	76,078	11,175	87,253
Gulf Coast of Texas	165,200	131,948	39,500	171,448
Total	780,250	596,454	122,446	718,900

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Phillips to Prorate Runs from Kansas on Marginal Basis

Tulsa.—Effective Monday morning, November 17, Phillips Petroleum Company announced that it would join Prairie Oil and Gas Company in prorating runs from Kansas fields on the marginal basis recently adopted for Oklahoma. Phillips Petroleum Company has been running approximately 3300 barrels daily and it is estimated that the new curtailment plan will reduce this figure by about 400 barrels daily. Up to this date no other purchasers have announced intention of basing runs on the marginal plan.

It is reported that Prairie Pipe Line Company expects to have its new eight-inch line to the Raymond pool completed by November 20 and will take 12,000 barrels to test the line and run a daily average of 550 barrels thereafter. This will be an average of 50 barrels per well based on the seven wells now completed and four which have been shut down on top of the sand for several weeks. The company has reduced its run from the Voshell pool approximately 1300 barrels daily, Skelly Oil Company has reduced about 1000 barrels daily, and Sinclair Oil and Gas Company has announced that it will increase its takings from its own leases between 1300 and 2500 barrels daily.

Magnolia Petroleum Company's Brady 1, NWc Section 29-27s-2e, Eastborough pool, found water when 13 feet in the Siliceous lime at 3405 feet. Derby Oil Company's E. B. Rimel 2, NEc Section 30-27s-2e, found water when 12 feet in the Siliceous lime at 3420 feet. These are the first wells to test the Siliceous lime going to that horizon after failing to find commercial production in the Chat and Wilcox zones. The Magnolia well had a show of oil and water in the Chat from 2989 to 2993 feet and a hole full of water in the Wilcox from 3308 to 3310 feet. The Rimel 2 had top of the Chat at 2996 feet, base of the lime at 3215 feet, and Wilcox from 3317 to 3322 feet with a hole full of water at the latter depth. It is an east offset to the same company's E. B. Rimel 1, which swabbed 1600 barrels initially from the Wilcox between 3233 and 3236 feet.

Logan County Wildcat Drilling Ahead in Wilcox Sand

Tulsa.—Tom Slick Oil Company and The Texas Company's Jones 1, SE NW Section 24-17n-2w, wildcat test 3½ miles northeast of Guthrie, in Logan County, cored dry sandy lime from 5624 to 5631 feet, had the base of the upper Simpson at 5635 feet, and is drilling ahead in what is believed to be Wilcox sand. This test is less than a half-mile northeast of the Roxana Petroleum Company's H. Cole 1, NWc SW Section 24-17n-2w, which was completed as a dry hole at 3893 feet on January 30, 1922.

Eason Oil Company's Katschor 1, SW NE SW Section 34-17n-4w, recent discovery well in western Logan County, is reported as a completion at 4942 feet in the Layton series. Early in October 8⅝-inch casing was set on top of the lower Layton at 4918 feet, where the well produced 510 barrels in 10 hours. It was shot and operators had considerable difficulty in cleaning out to bottom. Production has gradually declined until it is now making about 375 barrels daily.

Prairie Oil & Gas Company's Elrod 1, NE SE SW Section 31-19n-4w, in the Roxana pool, is flowing 75 barrels of oil and water while fishing at a total depth of 6000 feet. Blackwell Oil & Gas Company's Quigley 2, NE SE SW Section 21-18n-4w, in the Lovell area, is waiting on cement to set on the 8¼-inch casing at 5258 feet.

Oklahoma City Now Has 127 Operations and 643 Wells

Oklahoma City.—As of Saturday, November 14, there were a total of 127 operations in the Oklahoma City pool, consisting of 15 locations, 14 rigs, and 98 drilling wells. There were 643 completed wells on the same date. During the past 60 days total number of operations have decreased from 312 to 127 and number of completed wells has increased from 423 to 643 or an average of more than 73 completions per month. Present activity is confined principally to Sections 1, 2, 3, 10, and 15-11n-3w, and Sections 34 and 35-12n-3w. Production for the fiscal week ending November 15 was as follows:

November 9	74,593 barrels
November 10	62,159 barrels
November 11	77,419 barrels
November 12	99,382 barrels
November 13	125,281 barrels
November 14	72,012 barrels
November 15	84,233 barrels
Total	595,079 barrels

This is an average of 85,011 barrels daily showing that the field storage situation is tending toward some measure of relief.

Denver Producing & Refining Company's Harvey 1, SE SE SE Section 15-11n-3w, third producer in this quarter-section, was opened Thursday, and produced 1340 barrels of oil in three hours along with 25,000,000 cubic feet of gas. The well was completed about two months ago but closed in without being gauged.

It has been reported that work will soon be resumed on two important tests near the southwest edge of production. John A. Standish has taken over Standish-McCluney-Wade's Hinkle 1, CNE SW Section 27-11n-3w, approximately two miles southwest of production. Lincoln Oil & Refining Company has taken over operations of J. H. Gwin Drilling Company's Stotts 1, SW NW SE Section 15-11n-3w, third location southwest of production near the central part of the pool.

Wanette Well's Production is Increased on Deepening

Tulsa.—Pure Oil Company's Case 1, SW SE SW Section 14-6n-3e, which has been capable of producing about 60 barrels an hour for several months, was deepened four feet with an increase in production to 90 barrels per hour. Bottom of the hole is now 3640 feet, 19 feet in the sand. Payne Drilling Company's Bullock 1-A, SE SE NE Section 23-6n-3e, twin to the discovery well, flowed 1920 barrels initially from 32 feet of sand. Total depth is 3537 feet. Completion of the discovery well was unsatisfactory due to the fact that it was producing through a rip in the casing; top of the sand is indefi-

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nite. It produced only about 900 barrels initially and subsequent development indicated that much larger production should be obtained at this point.

In drilling, the twin operators were careful to ascertain the possibilities of any sands higher than the present main zone and planned on plugging the original well back if commercial production was found at shallower depths.

Empire Oil & Refining Company's Alexander 2, NW SW SE Section 23-6n-3e, had the sand from 3427 to 3432 feet and was drilled to 3441 feet. It produced only 125 barrels during the first 24 hours.

Konowa Extended South

Tulsa.—Magnolia Petroleum Company's Wood 2, SE NE SW Section 29-6n-6e, extended the Konowa pool one location south and, in gauging 3213 barrels during its initial 12-hour test, is the largest well so far to be completed. Production is coming from 86 feet of sandy shale believed to be in the Cromwell series. Sinclair Oil & Gas Company's Caesar 2, east offset to the Wood 2, produced only 360 barrels in 12 hours from 52 feet of pay and may be deepened on the showing of the new well, which is bottomed at 2776 feet. Total depth of the Caesar 2 is 2687 feet.

Relation of Earth Temperatures And Oil Accumulation Studied

NORMAN, Oklahoma.—During the past two years the American Petroleum Institute has been making an attempt to determine whether or not there is any relation between earth temperatures and the accumulation of oil. Temperature readings are being secured by the use of three thermometers lowered into wells on piano wire by means of a machine which is equipped with a depth recording meter. Only wells which have been idle long enough to attain a normal temperature equilibrium are used in making the tests.

The highest temperature so far recorded was in a well in northern Pittsburgh County, where the thermometer registered 192.6 degrees F. at a depth of 5219 feet, making the rate of increase one degree for each 40.2 feet. The lowest increase with depth was in the Healdton field of southern Oklahoma where the reading was one degree for each 150 feet. The deepest test, which was made in Sinclair Oil and Gas Company's L. E. Howell, Harper County, revealed a temperature of 166.8 degrees F. at 7625 feet. This well was drilled to a total depth of 8590 feet but readings could not be taken at that depth due to the caving condition of the hole.

Some of the variations found in different parts of the state were as follows:

Eastern Osage County.....one degree in 35.5 feet
Latimer County.....one degree in 56.7 feet
Le Flore County.....one degree in 51.2 feet
Northern Pittsburgh County.....one degree in 40.2 feet
Ottowa County .....one degree in 120 feet
Oklahoma City pool .....one degree in 107 feet
Healdton field .....one degree in 150 feet
Harper County .....one degree in 74.4 feet

The first five readings were taken in the eastern one-third of the state, the sixth and seventh in the central one-third, and the eighth in the western one-third. The information so far collected indicates that in general the temperatures become lower toward the western part of the state's producing areas.

The field work is being carried on by John A. McCutchin, research observer for the A. P. I., under the direction of Dr. Chas. N. Gould, director, Oklahoma Geological Survey.

Commission Appoints Collins Umpire of Proration

Oklahoma City.—In order to carry into effect the terms and provisions of its proration order dated October 28, the Corporation Commission of Oklahoma issued a supplementary order, November 3, appointing Ray M. Collins, umpire in the proration movement and Otto Bradford as his special assistant. It also named operator's committees for the various pools as follows:

Class "A" Wells

Chas. Jacobsan J. B. Steele Ralph Roark R. H. Huey
H. N. Pardue

Southern Oklahoma Fields

Sam Embrey F. M. Porter H. B. Fell J. B. Cowden
Knox Garvin Pete Shaner Joe Ray Clifford Mooers

Allen Pool

H. B. Smith.....Sinclair Oil and Gas Company
C. H. Wright.....Sunray Oil Company
George Moody.....Mid-Continent Petroleum Corporation

Lovell (Logan County) Pool

H. D. Aggers.....Wentz Oil Company
Glenn Haroun .....Sinclair Oil and Gas Company
R. W. Bond.....Shell Petroleum Corporation
Mr. Church .....J. E. Crosbie et al

Greater Seminole Including East and South Earlsboro and Konawa

J. S. Sidwell.....Prairie Oil and Gas Company
J. J. Conry.....Carter Oil Company
R. F. McArthur.....Barnsdall Corporation
Kenneth Winship .....Gypsy Oil Company
L. C. Hawkins.....Magnolia Petroleum Company

Oklahoma City Pool

M. J. Kirwan..Indian Territory Illuminating Oil Company
Wirt Franklin .....Cromwell-Franklin
J. S. Sidwell.....Prairie Oil & Gas Company
Ralph Roark.....Shell Petroleum Corporation
Glenn Haroun.....Sinclair Oil & Gas Company

West Asher-Wanette Pool

Ralph Roark .....Shell Petroleum Corporation
J. S. Sidwell.....Prairie Oil & Gas Company
M. J. Kirwan..Indian Territory Illuminating Oil Company

The operator's committee for southern Oklahoma, with H. B. Fell as chairman, met with the corporation commission on November 7 and came to a temporary agreement on wells which are making water along with oil. It is understood that approximately 500 barrels of production were exempted on this basis. Operators from other districts will have the opportunity of presenting like claims before the commission, a privilege specifically provided for in the original order.

Failure Recorded in Rice County

Wichita, Kansas.—Jasper and Beschla's Cupp 1, SW NE, Section 22-18s-9w, important wildcat test approximately two miles southwest of J. H. Tatlock et al's Ploog 1, discovery well in Rice County, was a failure in the Siliceous lime after having attracted considerable attention during the past few weeks. The test had been running at about the same height structurally as the Ploog 1 and was conceeded to have more than an even chance for production. Top of the lime was at 3314 feet where the hole filled with water.

Skelly Oil Company's Miles 1, NEc, Section 30-27s-10w, northwestern Kingman County, is showing about 10,000,000 cubic feet of gas from two horizons, one encountered at 2027 feet and the other at 2133 feet. The upper horizon gauged about 6,250,000 cubic feet and the lower about 3,750,000 cubic feet. This test is about 15 miles east of Pratt and 17 miles west of Kingman.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Installation of Tubing in Big Lake Wells Producing

SAN ANGELO, Texas.—Installation of tubing in the record depth oil and gas producers in the Big Lake field was in progress November 17, while in the meantime members of the Texas Railroad Commission were at odds as to whether the two companies owning these wells should have an extension of time to complete the task. The commission issued orders to Big Lake Oil Company and Group One Oil Corporation (Continental Oil Company) on October 31 to have all wells tubed, or closed in by November 15, as a sequel to a hearing on gas waste taking place in the field held at Austin one week previous. Unavoidable delay in getting delivery on special made tubing from Eastern mills caused the two companies to seek a 30-day extension of the order.

Request for such an extension was made November 13 before Commissioner C. V. Terrell and R. D. Parker, chief supervisor of the oil and gas division, and the latter agreed to grant the request, subject to approval by the two commissioners then absent from the state capitol. Pat M. Neff, chairman of the commission, disapproved the request early this week, thus leaving the operators in a quandry as to the status of the case.

Running of tubing in Big Lake Oil Company's University 2-C, which has been averaging about 2350 barrels of 58 gravity oil and 22,000,000 cubic feet of gas daily at 8603 feet, started November 15. Six joints of three-inch tubing were inserted on the first day, and 55 more joints were added November 16. The back pressure on this well was reduced from 950 to 350 pounds while this work is in progress, and during the 24-hour period ending 7 a. m. November 17 the well produced 2223 barrels oil and 20,897,000 cubic feet gas. Installation of tubing is being done on contract by Southern States Company, which uses the H. C. Otis method, and the crews will equip all wells of the company in such a manner as rapidly as possible.

The above company also has contract to tube wells of Group One Oil Corporation, and started work November 17 on University 3-B, which is making 1750 barrels of 58 gravity oil and 20,350,000 cubic feet of gas at a total depth of 8633 feet. This well is to be equipped with a combination string of three and four-inch Spang, Chalfant & Company, Inc.'s special made tubing. The same company's University 2-B, which is flowing 2100 barrels oil and 25,805,000 cubic feet of gas against 750 pounds back pressure, is to be killed so as to cement a string of seven-inch casing at about the 8000-foot level. The latter has a total depth of 8489 feet, with open hole below 5914 feet, where a string of 9⅝-inch casing was cemented with 1000 sacks. This open hole has resulted in considerable grit and rock reaching the Christmas tree and other surface connections, with noticeable damage. University 2-B will be equipped with a string of four-inch tubing before being restored to active production.

Production of the seven deep wells started the present week off with an oil yield of 14,600 barrels and 130,179,000 cubic feet of gas daily. Most of these wells show an almost steady gain in oil production each week, and such has been true in the fact of more stringent chokes and back pressures have been applied within the past few weeks. However, the above production shows a gas-oil ratio of 8926 cubic feet per barrel, while two weeks ago the gas ratio was about 9986 cubic feet per barrel.

Production from the seven deep wells in the Big Lake field for the 24-hour period ending 7 a. m. November 17, is listed below:

	Oil Production	Gas Production	Lbs. Back Pressure	Total Depth
Group One Oil Corporation—				
University 1-B	2827	23,448,000	165	8523
University 2-B	2100	25,805,000	750	8489
University 3-B	1750*	20,350,000	600	8633
Big Lake Oil Company—				
University 1-C	1459	6,023,000	450	8668
University 2-C	2223*	20,897,000	350	8603
University 3-C	174	1,206,000	500	8923
University 4-C	4067	32,450,000	800	8697

*Running tubing.

Four New Wells in Gulf-O'Brien Area Widely Separated

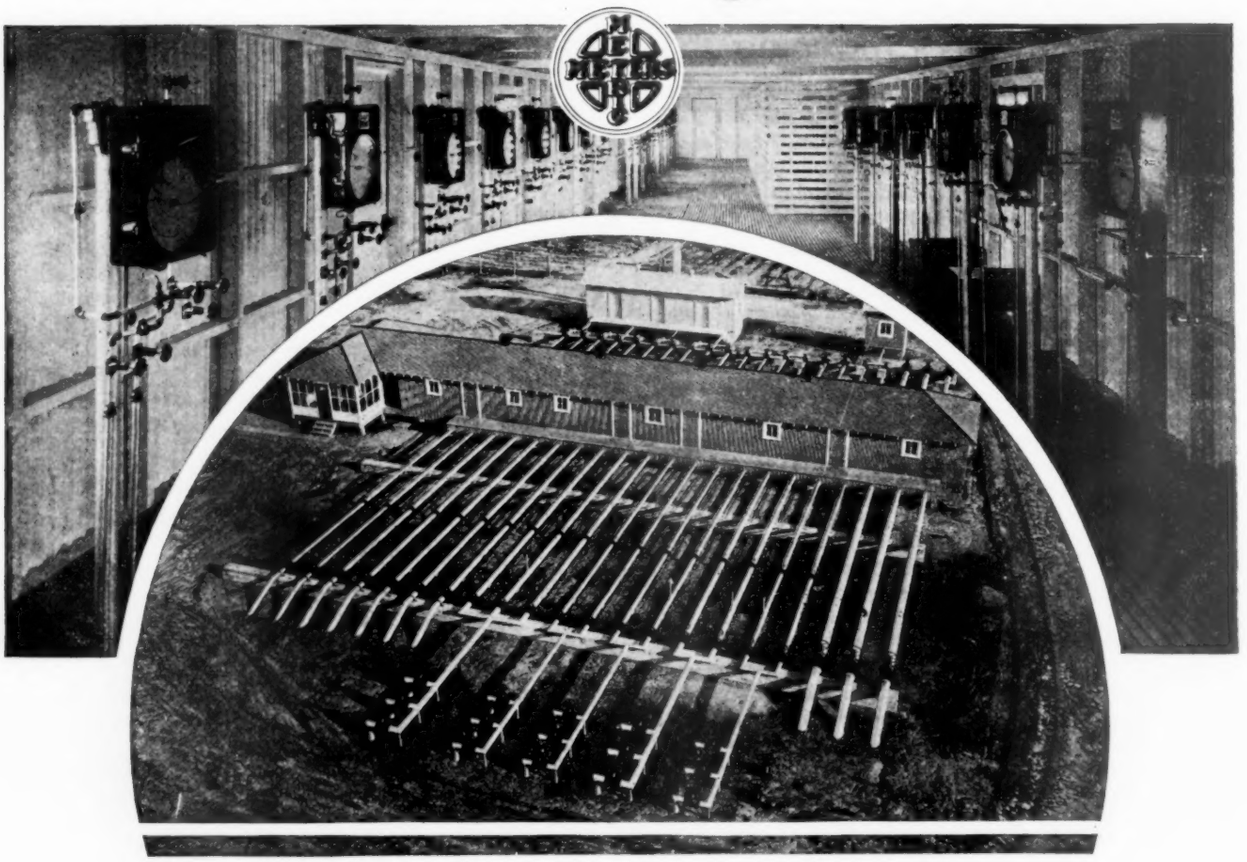
San Angelo, Texas.—Four flowing wells were in process of completion early this week at three widely scattered points in the Gulf-O'Brien field, Ward County. Magnolia Petroleum Company's Geo. Sealy 1, located near the center of Section 46 and about 3½ miles west of the nearest production, flowed 85 barrels of oil with about 1½ million cubic feet of gas before being shut in late last week for storage. This outpost well showed for a very small producer when given a 30-quart shot in lime at 3036-44 feet, but scored a production gain when deepened to 3056 feet. The well is on a solid block of 24 sections, but is in the northeast corner of the leasehold.

On the east flank of the Gulf-O'Brien field, Sid Richardson-Frank Kelsey and Magnolia Petroleum Company's O'Brien 5 flowed five barrels oil per hour, with an estimated daily flow of 9,500,000 cubic feet of gas from sandy-lime at 2573-99 feet. Gulf Production Company's O'Brien 15, a north offset, was flowing 50 barrels daily while drilling in lime at 2625-45 feet. Gulf Production Company's Hutchings 4, located on the extreme south end of the field, is making considerable gas and spraying about 50 barrels oil daily while conditioning hole to complete at a total depth of 3102 feet. This well was drilled with rotary below 2898 feet because of heavy gas production in the upper section of the lime.

The Wheat field, Loving County, continues to contribute one or two new producers each week from the Delaware formation. The latest producer is Arkansas Fuel Oil Company's Dean 1, which flowed 205 barrels during first 17 hours after shot of 160 quarts at 4295-4339 feet. This is one of the oldest oil areas in West Texas, and likewise one of the few that make sweet oil. Total production during October reached a new peak of 83,371 barrels.

In western Jones County, C. R. Pope et al's semi-wildcat on the W. D. Swann farm swabbed 200 barrels 40 gravity oil on six-hour test November 11 from sandy-lime at 2534-39 feet. This well is in the I. Miley Survey No. 281, and logged first Noodle Creek lime at 2508 feet, with a surface elevation of 1890 feet.

A Record Capacity for measurement by orifice



250 million Cubic Feet at 250 Pounds Pressure —feeding into a single line

A battery of twenty-one Westcott Orifice Meters for the accurate registration of up to 250 million cubic feet of gas daily at 250 lbs. pressure has recently been installed for the Arkansas Natural Gas Corporation at the Munce Metering Station, located near Sterlington, La. The "straight run" of the installation is 125 feet from inlet gate to outlet gate with two sets of straightening vanes in all runs.

The equipment represents to date, we believe, the world's largest capacity installation of orifice meters to measure gas feeding into a single pipe line. Two sets of Westcott Orifice Meters are in use at this station, ranging in size from 6 to 12 inches. One set measures the incoming gas from seven selling Companies in the Monroe-Richland field: The United Carbon Company; Southern Carbon Company; the Interstate Natural Gas Company; the Hope Producing Company; Dixie Gulf Gas Company; The Palmer Corporation, and the Industrial Gas Company.

Gravity is checked every 15 days; temperature correction is made daily. Mr. W. R. McLaughlin, Superintendent of Gas Measurements, says, "We check regularly less than ½ of 1% at all times."

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EAST CENTRAL TEXAS FIELDS

Joiner Area Records Two Failures During Week

TYLER, Texas. — Removal of the Joiner area in Northwestern Rusk County as a possible disturber of the high gravity oil market was partially accomplished during the past week when two tests drilled past the expected oil horizon with negative results. Arkansas Fuel Oil Company's Worrell 1, located about one-half mile southeast of the discovery well, tested dry at 3600 feet in broken sand and shale that is believed to be at the level Woodbine sand should exist. Worrell 1 pulled liner to deepen, and encountered hard Georgetown lime at 3640 feet. Drilling was in progress at the 3700-foot level in the latter formation on November 17.

Lauren L. Smith, Refugio operator, and associates' Worrell (five-acre lease) 1, located less than a half mile northeast of the lone producer, drilled to 3680 feet in hard lime without offering encouragement for a well. A drill stem test attempted on this hole November 16 failed, and a second try was slated to take place on the following day. Efforts have been made to conceal data in regard to developments on this test by its owners.

While this unfavorable development is taking place, the discovery well of C. M. Joiner and associates on the Daisy Bradford farm is maintaining an average daily flow of about 200 barrels of 38 gravity oil through tubing from broken sand, identified as Woodbine, at 3536-92 feet. A ready market is available for all oil produced in supplying fuel for nearby drilling rigs. The discovery well was placed on production October 3, and on October 31 the property was placed in voluntary receivership. Ernest R. Tennant, Dallas banker, is receiver.

H. L. Hunt of El Dorado, Arkansas, and associates are drilling in chalk formation below 3450 feet on their Bradford 1, which is located only a short distance south of the discovery well. Frank Foster and Deep Rock Oil Company's Ashby 1, located west by south of the producer, twisted off drill stem late last week near the 2850-foot level. Four other tests in the area have not reached sufficient depth to be of interest. In the meantime more than a half dozen locations have not advanced beyond the derrick stage because of the area looking doubtful from a production standpoint.

Humble Oil & Refining Company's wildcat drilling block in the vicinity of Blackfoot in Western Anderson County appeared less important as far as oil possibilities early this week when the first test drilled logged the Pecan chalk horizon comparatively low on structure. The area is generally known as the Blackfoot block, and has been considered as being one of the most promising structures from a geological standpoint in the district. J. W. McCaffrey 1, located in I. & G. N. Ry. Survey, A-418, and a short distance south of Blackfoot, encountered first Pecan at 2875 feet, with hard chalk at 2938-3163 feet. The test was drilled in shale at 3276 feet November 17. It has a surface elevation of 365 feet. This wildcat is not much higher on structure than some of the failures drilled to the east, including a recent one by Roeser-Pendleton, Inc.

Exploration of horizons below the Woodbine series in the north end of the Van field is underway on Pure Oil Company's A. G. Tunnell 1, which failed to make a producer in the regular sand level, and early this week drilling and coring was taking place below 3764 feet. Including the above test, there are now six failures credited to the Van field 5800-acre unitized block, including one each for Kraft & Kelsey and Imperator Oil Corporation-Paul Vitek. The latter two drilled on vacancy strips on the south and north ends of the producing area. Pure Oil Company issued plugging orders on its I. W. Thompson (95-acre lease) 1, located a short distance from the southwest section of the field, after drilling to 3313 feet. This failure topped Austin chalk at 2785 feet.

Three completions credited to the Van unit within the past week were small producers. Pure Oil Company's Mertie Elliott 1, A. H. Wiley Survey, flowed five barrels oil per hour through 11/16-inch choke from broken sand at 2860-2933 feet. The same company's A. D. Clark (42-acre lease) 1, A. H. Wiley Survey, also proved to be a light well from sand at 2750-2931 feet. The Texas Company's R. A. Tunnell 3, John Walling Survey, was completed from regular sand at 2721 to 2946 feet. A heavy producer is in prospect for Pure Oil Company's O. L. Swain (80-acres) 2, located on the east side of the unit, as this test developed good oil saturation in sand at 2300 feet, and has cemented siven-inch pipe at 2292 feet. It is one of the highest wells on structure in the field. Humble Oil & Refining Company's A. J. Fowler 1, located in the Carroll section and outside the unitized area, also gives promise of making a heavy producer, with key formations running higher structurally than other nearby tests. Fowler 1 was preparing to cement pipe on oil saturated sand at 2529 feet early this week after logging Pecan chalk at 1815-2016 feet, and Austin chalk at 2276-2449 feet.

Another 30 days is expected to be required to complete the 10-inch trunk line that is being built from the Van field by Humble Pipe Line Company to Baton Rouge through a joint hookup with Standard Pipe Line Company of Louisiana. The former has welded and buried about 25 miles of pipe, and welding work has been completed on an additional 20 miles, with crews working on both ends of the Texas section of the line. When completed the line will represent a total of about 108 miles. Humble Pipe Line Company is erecting a main line station on the R. S. Blake producing lease. Upon the completion of this second trunk line into Van, it is freely predicted that the proration allowance for the field will be boosted from 27,500 to 40,000 or 50,000 barrels daily.

Line Facilities Now Available to New Castle-Orth District

WICHITA FALLS, Texas.—Pipe line transportation facilities are now assured for a number of isolated pools and leases comprising the New Castle-Orth district in north central Young County as result of the completion of an extensive gathering system by The Texas Pipe Line Company on November 11. Approximately 3500 barrels of crude shipments are in sight for this system, including a large percentage of common carrier business.

The Texas Pipe Line Company erected a field station in the south half of Section 32, T. E. & L. Survey, and used four-inch pipe in connecting same with its main line station in Section 252. Gathering lines were extended from the field station to the heart of the Larimore shallow field, and a second unit to the Jeffrey pool, with branch lines to producing properties in between. Entrance of this line into the Larimore field is to give relief to many operators that have been held to a three-barrel well limit by reason of Prairie Oil & Gas Company's latest crude buying policy.

Shallow oil areas in the New Castle-Orth district are con-

tributing the only new production of any consequence in the North Texas district, and considerable development work is scheduled to take place as a market outlet for the crude becomes available. A large portion of this production is expected to go to refineries in the Wichita Falls district, as all of the major buyers have limited their daily purchases, and in some instances reducing same. Maer & Hamilton's second test on their Jeffrey discovery lease, comprising all of Section 53, made 200 barrels initial at 815-30 feet. Dr. E. R. Riggs et al's Kirkland 2 registered an initial yield of 210 barrels at 704½ to 729 feet. The Texas Company's Finch 1-B, Section 40, flowed 270 barrels natural from sand at 661-669 feet.

Recent discovery of low gravity oil production below commercial gas production in Grayson County by Sherman Oil & Gas Company has not been followed by an active drilling program as such wildcat strikes usually bring on. This company's Dalton 2 furnished the county with first oil production after deepening from gas sand to an oil sand at 931-33 feet, resulting in a 40-barrel pumper. The oil tests about 25 gravity, and no pipe line connections are available.

Gray County Tests Pass Depth Where Pay Was Expected

Amarillo, Texas.—Two tests drilled within close vicinity of the heavy oil producer on the Sullivan land in western Gray County had passed the expected oil horizon early this week without showing for producers. The Sullivan area has been in the spotlight since last September when Taconian Oil Company uncovered a 10,000-barrel flush producer with unusually heavy gas flow at 2990 feet.

This well has since been acquired by J. T. Harrel et al of Wichita Falls. Empire Gas & Fuel Oil Company's Sullivan 1, an east offset, missed production, and early this week was fishing tools at 3608 feet, or about 34 feet lower on structure than the producer. The Texas Company's Brown 3, located one-quarter mile due north of the semi-wildcat producer, is also checking low on structure, and at last reports was fishing at 3025 feet. Magnolia Petroleum Company's Latham 1, located a short distance to the west of the Sullivan well is more fortunately situated, and is credited with running about 20 feet higher on structure. Latham 1 was carrying 17,000,000 cubic feet of gas from granite wash formation at 2880 to 2940 feet early this week, with good prospects for a well.

Dry Creek Discovery Important

Billings, Mont.—The Dry Creek field probably is the most promising of the several new fields brought in by Ohio Oil Company this year. This field is not far from the town of Red Lodge, southern Montana. Company tested its discovery, which has not been drilled into the producing sand, for 16 hours last week, and reports that it had a daily production of about 2040 barrels. Operators hereabouts believe that this would be doubled if the well were drilled deeper. The company has made six locations in the new district, only two of which are to be drilled at this time. The oil has a gravity of 52 degrees.

Greasewood Dome Well Uncompleted

Denver, Colo.—There are no further developments reported at Platte Valley Petroleum Company's discovery well on Greasewood Dome structure, in Weld County. The well is standing at 6667 feet and is producing some 150 to 200 barrels per day although it is not drilled in. A temporary arrangement for the disposition of the production has been made with Continental Oil Company which is shipping the crude to its refinery at Denver. No date for drilling in the well has been set.

Wildcat Activity in Eastern Texas Counties on Increase

Longview, Texas.—The opening of the new oil area in Henderson and Rusk Counties, Texas, has stimulated wildcatting and acreage trading throughout the eastern edge counties of Texas. Among large tracts recently blocked is one in the southwest part of Marion County, comprising 7500 acres, secured by George Hindman of Houston and Jack Hamilton. A test is expected to be started by next February.

Lee Timberlake and associates have leased about 12,000 acres of their 20,000-acre holdings in Bowie County to a California group, who plan to drill two tests if a magnetometer survey to be made immediately, is favorable.

Benedum & Trees have blocked several thousand acres in Nacogdoches County, Texas, including some leases said to have been formerly held by Humble Oil & Refining Company.

Texas Railroad Commission Hearing

Austin, Texas.—An order calling a general hearing upon continuation of state-wide proration has been issued by the Texas Railroad Commission, to be held at Austin, Saturday, November 22, 1930. The hearing will be held in the Hearing Room of the commission in the Capitol at 10 a.m. The hearing is called pursuant to the terms of the order issued on August 14, 1930, wherein it was provided that on a day in the month of November, to be hereafter named, notice of which would be given, there would be held at Austin a hearing to determine whether or not the order of that date should be terminated at the expiration of the 90-day period therein named as the duration of said order or whether said order should be modified and continued, or continued in all of its then terms, notice of which hearing was then given without date.

Plan to Use Rotary on Salt Creek Well

Casper, Wyo.—Midwest Refining Company is rigging up cable tools to drill in its No. 8-SD-3 in the Salt Creek field. This is the first Sundance sand well in the field to be drilled into production by the rotary method, all others in the field having used cable tools. The well was drilled by Olson Drilling Company of Tulsa, the company which brought in the Midway Dome wildcat well in record time. Midwest Refining Company has another contract with the company in the Salt Creek district for a second Sundance well; it has already been started and at last report had reached the first Wall Creek at 1100 feet. The No. 8-SD-3 is bottomed at 2975 feet in the top of the Sundance.

Geological Bulletins Issued

Lawrence, Kansas.—The Kansas Geological Survey, Lawrence, announces publication of Bulletin 15, "The Geology of Cloud and Republic Counties," by Monta E. Wing and Bulletin 16, "The Geology of Mitchell and Osborne Counties, Kansas," by Kenneth K. Landes. The four counties are located in the north-central part of the state in an area which has been little explored for oil but which may come in for a considerable play in the future. Price of each Bulletin is 20 cents.

Pitchfork Well Output Increases

Cody, Wyo.—A gauge of the discovery well on Pitchfork structure, Park County, northwestern Wyoming, shows it to be good for about 500 barrels of black oil at 3910 feet. The well was a joint venture of Producers & Refiners Corporation and Honolulu Oil Corporation of San Francisco. It was good for 280 barrels, natural, and was then shot.

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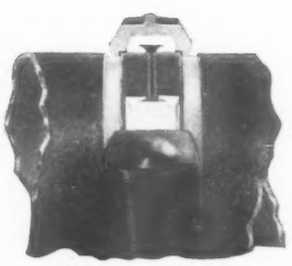

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New Mexico and Rocky Mountain Area

Eight New Wells Boost Hobbs Potential Beyond Million

HOBBS, New Mexico.—Estimated potential daily production of the Hobbs field advanced beyond the 1,000,000-barrel mark as result of eight wells added during the first 15 days in November. Revised proration figures released November 15 by Umpire C. G. Staley credits the field with 122 completed wells that have an estimated average potential of 973,188 barrels daily from the 109 40-acre units on production. Nine of these units have two or three wells on same that are rated at a combined potential of 95,586 barrels daily, but the latter figure is not included in the official total potential because of proration being on a unit average basis. Possible production of the field on a wide open basis for a full 24-hour period is admitted to be much less than the potentials indicate, while maximum pipe line outlet is only between 50,000 and 60,000 barrels daily from the three eight-inch lines in service. There is only a half dozen big tanks in the field.

Allowable production for the Hobbs field was reduced from 31,300 to 29,867 barrels daily beginning with the November 16-30 proration period. This decrease of 1433 barrels was largely due to loss in allowances earned by companies that have private market arrangements for their own production, but do not nominate takings. Atlantic Pipe Line Company, Shell Petroleum Corporation and Humble Oil & Refining Company are the only companies that have made nominations since proration was inaugurated July 10, 1930, and these concerns are sticking by their original takings. The current proration plan for Hobbs expires January 10, 1931. Continuation of the prevailing restrictions is imperative to safeguard the porous lime formation, furnishing 35-36 gravity oil from the 4200-foot level, from water encroachment. Only one well in the field—a 20-barrel producer—is making water. November election brought about a change in the personnel effective January 1, 1931, of the principal executives of the state of New Mexico. This change will require Hobbs operators to deal with a new group of officials in petitioning the state to sanction a continuation of proration.

Hobbs field is a close rival to the Van field, Texas, for third place honors on largest potential production in the United States. Yates leads by a wide margin, and Oklahoma City holds second place position. Even with a comparatively small daily production allowance, Hobbs field is enjoying a much greater daily production quota per well than any of the above areas, or any important oil field in Texas. During the last half of November the 122 completed wells at Hobbs will be allowed to produce at average rate of 244.81 barrels daily per well, or 3.07 per cent of the average potential.

Several small producers on the west flank of the Hobbs field were included with completions reported within the past week. Shell Petroleum Corporation's Nora Berry 2, NWc SE¼ Section 31-18s-38e, proved to be a larger well when tested through tubing than when thrown open through tubing and casing. This well encountered broken formation, with oil saturation in regular lime at 4105-70 feet, and 4178-4210 feet. It gauged 2171 barrels oil and 1,685,000 cubic feet of gas daily through three-inch tubing, but when opened up the oil production dropped to 1750 barrels daily, with gas estimated at 1,996,000 cubic feet. Empire Gas & Fuel Company's C. Fowler 3, a north offset to the above well, made a much better showing in earning an official potential of 5994 barrels from lime at 4190-4212 feet, with three-inch tubing lowered to 4198 feet. Skelly Oil Company's Fowler 2, a west offset to the latter, drew a potential of 3758 barrels oil and 3,000,000 cubic feet gas daily at 4090-4215 feet, with tubing at 4040 feet.

An inside location in the northeast section of the field furnished the largest completion for the week when Shell Petroleum Corporation's McKinley 8-A flowed open at rate of 12,960 barrels and 8,309,000 cubic feet of gas at 4050-4210 feet. This completion and the one on the Berry farm completed the company's drilling program in the field for the time being. Shell Petroleum Corporation is leading all other operators in the field on potential and allowable production through having 19 wells on 17 units rated at an average potential of 146,415 barrels daily, with an allowance of 4454 barrels daily for the new period. Amerada Petroleum Corporation ranks second with a potential of 127,526 barrels daily from 10 wells on as many units. The allowance for this company is 3557 barrels daily.

Beneficial results were obtained by Humble Oil & Refining Company in the recent deepening of its D. A. Bowers 1, which was the first big producer completed in the field and also the most important extension, as this well made 7622 barrels oil and 11,000,000 cubic feet of gas after drilling to 4215 feet. The original depth was 4106 feet.

Plugging orders have been issued on Continental Oil Company and The California Company's Bill Meyer 1, SWc N½ Section 28-22s-36e, after encountering additional sulphur water in white sand at 4304 feet (SLM). This wildcat passed up 12,000,000 cubic feet of gas at 3750 feet, but the production was protected by setting pipe through same with a bradenhead. The owners of this well may plug back and validate the government permit with this gas production.

Rocky Mountain Association to Meet

Great Falls, Mont.—The Calgary chapter and the Montana chapter of the Rocky Mountain Oil & Gas Association will hold joint annual convention in Great Falls, December 11-12-13 at Hotel Rainbow, Great Falls.

Get Gas Well on Baggs Structure

Baggs, Wyo.—Another discovery of gas on the Baggs structure, extreme southern Wyoming, is reported by Red Feather Oil Company which has about 5,000,000 feet at 700 feet. Red Feather Oil Company and Producers Oil & Gas Company plan the joint development of the structure for gas, with the idea of supplying this town and installing a natural gasoline plant in the field. Gas from the new well is to be used to deepen Producers Oil & Gas Company's well which is standing at 2100 feet.

Gypsy Enters South Dakota

Hot Springs, S. D.—Gypsy Oil Company has recently taken over 50,000 acres in Pennington and adjacent counties in South Dakota, and it is understood will drill its first test in the vicinity of the town of Wall in Pennington County. The work will probably not be under way until spring.

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Gulf Coast and South Texas Fields

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Darst Creek Production Again Within 30,000-Barrel Limit

SEGUIN, Texas.—Following a period of about a week during which production ran considerably above the proration allotment of 30,000 barrels daily, the Darst Creek field at the opening of this week was back virtually within that allowance, with a new schedule in effect, allowing participation of new wells in the 30,000-barrel outlet.

Louisiana Oil Refining Corporation, which obtained a temporary restraining order November 8 in the Fifty-third District Court of Travis County, forbidding the Railroad Commission of Texas to enforce its proration order against the company's properties at Darst Creek after the latter had filed suit against the commission for injunction, produced its wells in excess of proration allowance for a while, boosting the yield, it is reported, to as high as 10,000 barrels one day, and owners of offset wells were likewise obliged to open their wells to some extent.

On November 12, however, a hearing was held before Judge George Calhoun of the above court at Austin relative to the Louisiana Oil Refining Corporation's contentions, and no injunction was issued to the company, its temporary restraining order at the same time being voided, as the state agreed not to prosecute the general proration order of the railroad commission of August 27 against the plaintiff, and the court held that there were no grounds for injunction. The plaintiff has its own outlet for oil, and therefore no others will be effected as common carriers.

Under the new schedule, effective November 12 to 29, the Louisiana Oil Refining Corporation earns a daily allowance of 2595 barrels from 15 wells. The allowances of all the companies in the field are shown in the accompanying table. The 30,000 barrels per day outlet which was assigned to Darst Creek by the Railroad Commission's latest order, is scheduled to remain in effect for a period of 90 days dating from October 29.

Seven new wells for the Darst Creek field were placed on production during the past week by Magnolia Petroleum Company. These wells registered a combined initial output of about 3800 barrels, and as result of their completion the company is rigging up rotary to drill M. T. Klein 5 and Thomas Dix 15.

The largest of the new wells added by Magnolia Petroleum Company was credited to Thomas Dix 13, which earned a potential of 804 barrels oil and 378 barrels water from Edwards limestone at 2617 feet. Dix 14 was in process of completion late last week in Edwards at 2561-75 feet flowing 200 barrels natural, with an estimated potential of about 750 barrels when placed on pump. Annie Knodel 4 flowed 125 barrels natural from lime at 2552-84 feet, but pumped 692 barrels oil and 112 barrels water on first proration gauge. Rand Miller 5 pumped 333 barrels oil and 68 barrels water on initial gauge at 2564 feet, and Miller 6 was showing for a 400 barrel pumper late last week at 2612-17 feet. M. T. Klein 3 pumped 488 barrels pipe line oil at 2590 feet. All of these wells were pumped eight hours in accordance with the proration rules to determine daily potentials.

Humble Oil & Refining Company also completed two wells at Darst Creek the past week. Its Denman 19-A came in for 800 barrels daily at 2590 feet, and Denman 20-A was a 1200-barrel well at 2585 feet.

The Texas Company is now the most active operator in the Guadalupe County field. Its R. C. Appling 1, a test put down in an effort to extend the production of the main field to the northeast or else to find crevice production like other wells drilled nearby in the "Appling area," found the top of the Buda lime at 2375 feet and drilled in that formation to 2388 feet, and on November 18 casing was set at the top of the Buda.

Aside from the above well, The Texas Company has four other tests under way at Darst Creek, all of them nearing the completion stage. Lemmie Anderson 6 had 6⅝-inch casing cemented at 2540 feet on November 17 over Edwards lime, with the bottom of the hole at 2559 feet. Knobloch 6-A at the same time had 6⅝-inch casing cemented at 1785 feet. Knobloch 7-A went into Buda lime at 2336 feet and was drilling it on the above date at 2354 feet. Pauline Roamel 4 was in chalk at 2275 feet.

Darst Creek Proration Schedule

Totals taken from official proration schedule Number 18, showing allowable production by companies, effective November 12 to November 29, 1930. The aggregate potential of all wells by eight-hour gauge is 183,254 barrels. The allowable production is 30,000 barrels, being .161398 of the aggregate. Leases of 100 barrels production or less are not prorated.

Producer	No. wells	Potential	Daily allowable
Abercrombie & Harrison	5	5,415	874
Cranfill-Reynolds Company	1	35	35
Empire Gas & Fuel Company	8	2,817	455
Gulf Production Company	43	38,733	6,251
Humble Oil & Refining Co.	43	34,000	5,516
Louisiana Oil Refining Corp.	15	16,076	2,595
Magnolia Petroleum Company	37	17,036	2,799
Penn Oil Company	1	70	70
Stroube & Stroube	1	105	105
Sun Oil Company	12	20,443	3,298
The Texas Company	50	46,938	7,597
Dr. Thompson	1	15	15
Trinity Drillers	3	1,222	249
H. H. Weinert	1	248	40
H. H. Weinert et al	1	101	101
Field Total	222	183,254	30,000

White Point Field May Become Oil Producing Area

Houston. — The White Point field, San Patricio County, about six miles northwest of Corpus Christi, and across Nueces Bay from that town, now gives definite indication of developing into an oil producing area, although it has been strictly a gas field in the past. Saxet Oil Company's Rachal 17, located near the center of the proven gas area in the northeast corner of the John Seguin Survey, came in on November 6 as a gas well, producing from sand logged from 4878 to 4892 feet and registering pressure of about 2100 pounds, but a few days later it began yielding oil at the rate of 25 to 100 barrels daily. Oil production had been anticipated, for the sand and

shale from 4878 to 4892 feet had shown oil. Nine and five-eighths-inch casing is cemented at 4876 feet. Early this week it was reported that the well would be drilled a few feet deeper in the hope of increasing the oil production.

White Point field has been producing gas on commercial basis for several years, and ever since the discovery of oil in 1928 in the Refugio field, about 28 miles to the north, where only gas had formerly been produced, the belief has persisted that oil would also be found ultimately at White Point. However, a large portion of the acreage in and around the San Patricio County field is controlled by gas companies, and there have not been any recent efforts heretofore to find oil. The above well is the deepest yet drilled at White Point, and judging by its performance it is believed that important oil production may be found in the field, particularly in wells located farther off the top of the structure, and consequently at depths of 5000 feet or greater.

Second Test North of Cypress, Harris County, Spudded In

Houston.—Cypress Oil & Development Company, Incorporated, a new company, operating about two miles north of Cypress, Harris County, has spudded in Kitzman 2, offsetting Mrs. J. C. Baldwin's Kitzman 1, which showed both oil and gas at various horizons between 2000 and 4250 feet. Kitzman 1 is now standing at 4250 feet, and it will be placed under supervision of Harvey & Rush of Houston, who will test its possibilities. Since tubing has not been run, it is thought that the well has possibilities of production.

Kitzman 2 will be drilled to 4500 feet if necessary, using a new derrick and a new, heavy rig. Drilling will be carried on day and night by Harvey & Rush, who have been given the contract to drill the well.

Officers and directors of the Cypress Oil & Development Company, Incorporated, are: Mrs. J. C. Baldwin of Houston, president; W. C. Moore, vice-president, and F. P. Eastburn, secretary-treasurer. Headquarters are in the West building, Houston, at Mr. Eastburn's offices. The company is completely financed.

Starr County Test to Be Drilled Deeper

Houston.—The Texas Company was pulling liner early this week in preparing to drill deeper in V. Guerra 5-A, its Roma structure test, Starr County, the well having tested 5,000,000 cubic feet of gas and 500 feet of salt water at 3656 feet. Casing was previously cemented at 3424 feet.

This well is located about one-half mile southeast of Virginia Guerra 4-A, discovery well of the structure. That well was completed nearly a year ago in Porcion 76, on the west flank of the anticline, and it is still pumping around 25 barrels daily, nearly as much as when it was first placed on production. The oil is about 34 gravity. Total depth of the producer is 3590 feet. The present drilling well on the above test was a little deeper into the same sand as that of the discovery well, and the sand itself was a little deeper.

Only one producer has been completed on the structure, but The Texas Company has been active in the area for several years, and five wells were abandoned as dry holes, although showings of gas were found in the regular 3600-foot sand. The dry holes were mostly on the south part of the structure, near the top of it, whereas the producer is on the west edge along the north end of the structure.

At the surface on the Roma structure there is a 300- to 400-foot thickness of Fayette formation, and the production of the field is from Lower Cook Mountain formation, or possibly from the Mt. Selman, which is just below Cook Mountain.

Salt Flat Allowable Fixed at 15,333 Barrels Daily

Luling, Texas.—A hearing was held November 12 before the Railroad Commission of Texas in regard to the proration order recently extended in the Salt Flat field, and as nobody appeared to protest against the order, it will remain in force as written.

The new proration period, under which the field is restricted to 80 per cent of potential, is for a 90-day period, November 4 to February 2, 1931.

Following is the schedule of allowances by companies:

Company—	Total potential	Daily allowance
Abercrombie & Harrison	165	132
Adams & Lyles	79	63
Cooke Finance Company	10	8
Cranfill-Reynolds Company	113	91
Eastland Oil Company	127	102
Golden West Oil Company	198	158
Gulf Production Company	3,079	2,463
Humble Oil & Refining Company	11,806	9,445
Nash, Windfohr & Perry	665	532
Shell Petroleum Corporation	2,142	1,713
Sun Oil Company	203	162
The Texas Company	251	200
Thurman & Brown	154	123
M. K. Townes	149	129
Witherspoon Oil Company	12	12
Field total	19,153	15,333

Start Gonzales County Test

Houston.—George P. Lawrence et al have commenced drilling a test, R. T. J. Pettit 1, on the Thomas Moore Survey, Gonzales County, 3½ miles south of Waelder, alongside the Gonzales-Waelder highway. The test, which was down 120 feet early this week, will be drilled to 5000 feet if production is not found at shallower depth, according to plans of the company, the Edwards limestone being the ultimate objective. A wildcat well was drilled in the past on a location 500 feet south of east from the present test, on the Lamkin tract, and it had a showing at 2175 feet, it is said. Mr. Lawrence has headquarters in the Second National Bank building, Houston.

Saratoga Pumper at Shallow Depth

Houston.—A particularly shallow well for the Gulf Coast was completed last week when Rio Bravo Oil Company's Cotton 100-B at Saratoga salt dome was finished as a seven-barrel pumping producer at 175 feet.

Geologists to Meet at San Antonio

San Antonio, Texas.—The sixteenth annual meeting of the American Association of Petroleum Geologists will be held here at the Gunter Hotel, March 19, 20 and 21. The San Antonio section of the association will act as host for the event, together with the San Antonio Chamber of Commerce and other San Antonio hotels.

The Society of Economic Paleontologists and Mineralogists, technical division of the A. A. P. G. and the Society of Petroleum Geophysicists are holding concurrent meetings.

A feature of the meeting will be an illustrated lecture by Dr. Laurence Gould, geologist and second in command of the Byrd South Polar Expedition, and a moving picture presentation of the making of airplane maps for oil companies.

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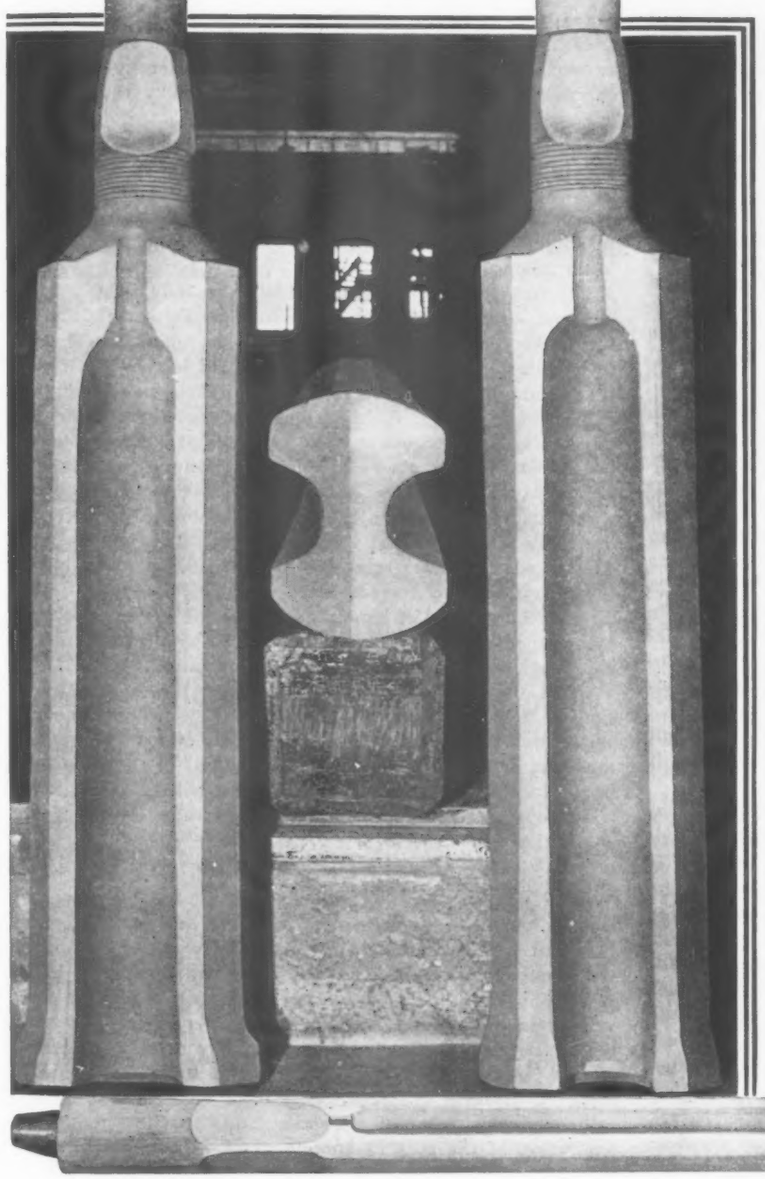

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News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

California Starts Second Year of Conservation Auspiciously

LOS ANGELES.—Pressing need for curtailment at Playa del Rey and the growing feeling that California should produce less oil during 1931 than during 1930 marked the beginning of the second year of conservation and pointed toward immediate action which should ultimately lead to favorable agreements in the areas now giving most trouble. State-wide curtailment will be continued for an indefinite period, agreements now being circulated indicating that the lowest practicable level will be maintained as long as production, plus stocks, is in excess of normal requirements.

Playa del Rey has become the most sensitive spot in the curtailment setup. It is only natural that a townlot field which has not heeded invitations to prorate production and which has built its production up from nothing to 40,000 barrels during the past 11 months should find itself high and dry and in urgent need for full recognition during a period of depression. More than half of the operators are anxious to reduce production by 50 per cent, and in doing so obtain a uniform posted field price for the crude, but fully 25 per cent of the smaller companies have displayed an unwillingness to sign agreements to reduce production from the potential. It is becoming increasingly evident, however, that more money will be received over a long period for a 50 per cent production than for the full output, if it is thrown on the market at whatever price it will bring.

With perhaps more than 300 small companies and owners directly interested in the leases which are producing or will ultimately produce oil in commercial quantities, it is evident that obtaining anywhere near 100 per cent of the signatures is a difficult job. Neil H. Anderson, umpire for the Long Beach field, is heading the committee that is canvassing the field. Convincing arguments have been advanced by committee members and many small companies have signed the agreement when they understood its meaning.

Playa del Rey crude has been bringing various prices between 35 cents and 85 cents per barrel. The clean oil has been sold readily at an average of about 70 cents per barrel, but the cut oil, which includes more than half of the field production, has moved at lower than posted prices for the same grades in other Los Angeles basin fields. With a heavy sulphur content and with a good supply of sweeter crudes available in other fields, Playa del Rey crude has to be clean to command a full market price. At least half of the producers are obtaining oil which shows a cut in excess of three per cent and they are beginning to realize the need for a posted price which scales the cut oil to a certain figure.

Further Curtailment Needed

Operators in fields under the supervision of Umpire H. P. Grimm have been asked to sign an agreement which is similar to the one in effect during the past year. In it is explained the need for continuation of the curtailment program, due to heavy stocks and a daily production which does not permit a substantial reduction of such stocks. The agreement leaves the allowable to the discretion of the committees fixing and potentials and allowables from month to month.

California production remains just below 600,000 barrels, and it is becoming increasingly evident that if stocks are to be reduced sharply during 1931, the output must be reduced. No definite steps have been taken to form a new schedule but several major operators feel the need for a lower allowable.

The fact that the present allowable is only 540,000 barrels and actual production more than 50,000 barrels above the correct level is retarding action on plans for a still lower allowable. It is evident that a plan which calls for a production of 540,000 barrels and tolerates an output of 595,000 barrels is far from an ideal one, but there seems to be nothing to do about it. The excesses at Playa del Rey, Kettleman Hills, Santa Fe Springs and Long Beach account for the surplus output. Achievement of the present goal would immediately pave the way for a lower production, but there is a belief that if California could reduce its production to 540,000 barrels—the present official allowable—there would be no pressing need for a lower output. Criticism of the method of handling curtailment has been voiced by opponents of conservation, but on the whole very creditable work has been done by the organization.

The Long Beach field continues to produce a few thousand barrels more than its allowable. New production has aggravated the problem here and completions in the future will prove bothersome. The potential of the field has been placed at 202,000 barrels by the advisory committee, a figure somewhat higher than the average estimates of engineers.

Form Kettleman Group

The Kettleman North Dome Association has been organized to handle the development of about half of the North Dome at Kettleman Hills, in connection with the Standard Oil Company of California, owner of the remaining half. A form of two-unit plan of operation will guide the development of the field, with the government a full party to the agreement. Drilling will be limited to meet market demands and wells will be drilled in locations which will insure a uniform drainage. Operators have been anxious to reach some form of agreement, due to the impending expiration of the present agreement of July 1, 1931. More than a dozen wells are shut down over the Temblor zone and the mere opening of these producers should treble the production on the North Dome. In addition, many wells would be started and placed on production as completed. The two-unit plan of development is one of the largest undertakings ever attempted within the petroleum industry and the ultimate outcome, or even the results of the first two years, will be watched with interest. The agreement probably will involve in excess of $1,000,000,000 in oil and gas.

Criticism of the potential, upon which the present curtailment program is based, is being heard and independent engineers believe that an open-flow test would be timely. Such tests are expensive and involve extra time, but they probably would be worth the trouble in a few fields. The

last series of open-flow tests brought about some surprises, with a few of the fields showing higher potentials than estimates had shown. Santa Fe Springs and Long Beach failed to produce their estimated potentials, but the rapid declines had made accurate predictions difficult. On the other hand, Ventura Avenue and Elwood exceeded the average estimates set up from decline curves.

North Belridge Deep Well to Have Production Test Soon

Taft, Calif.—Richfield Oil Company has cored several streaks of good oil sand below 5775 feet in Belridge 1, a deep test in the North Belridge field, and will cement a string of 9⅝-inch casing at about 5780 feet to test that part of the Temblor which has shown the best cuts and appeared free from water. Cores recovered at intermediate depths between the tentative cementing point and the present bottom of 5825 feet showed oil sand and definitely established the formation as the Temblor zone.

Completion of this well may extend the producing limits of the deep zone at least 1½ miles and should yield a clue as to the probable trend of production. Belridge Oil Company's Fee 15, discovery well in the Temblor zone, continues to increase its production, latest gauges showing a flow of 3300 barrels of 45.7 gravity oil from a total depth of 5457 feet.

General Petroleum Corporation has reached a depth of 2855 feet in Berry 1, a test in the Belridge field and located about six miles south of the discovery well. Standard Oil Company has completed the rig at McPhail 1, an offset to the original producer in the deep zone, while The Texas Company has passed 600 feet in Martin 1, an offset to Richfield Oil Company's Fee 1, which is now in the Temblor zone.

Three Completions Due At Kettleman Hills Shortly

Coalinga, Calif.—Although by far the most widely advertised field in California, field activity at Kettleman Hills is so limited and scattered that a personal survey of the North Dome may fail to disclose the importance of the structure. Road work and the widely scattered drilling wells lend the air of an old settled field, but a careful observation reveals a restlessness which comes with the belief that the field is capable of producing 10 times the present output of very light oil.

Of the 15 drilling wells, three should be completed within a few weeks. Completions on fee land are more dangerous than wells finished on permits and ultimately only these flank wells can lead to intensive development outside agreements.

Superior Oil Company's Huffman 1, completed several weeks ago as the record performer of the field is producing exactly as much as the other seven wells, or 12,700 barrels. Despite this very large flow of 40 gravity oil, gas production is only 78,000,000 cubic feet, as compared with more than 430,000,000 cubic feet from the seven wells producing the same amount of oil.

Petroleum Securities Company is drilling below the 8⅝-inch shutoff in Felix 2, a direct offset to Felix 1, the company's first producer which has declined to a flow of 300 barrels. Felix 2 undoubtedly will be placed on production, unless the attitude of the original lease-holders has changed. Standard Oil Company is reaming at 7250 feet in No. 29J-34, an offset to Superior Oil Company's record completion, but much more hole will be required to make the test a competitor of Huffman 1.

Production at Playa del Rey May Exceed 40,000 Barrels

LOS ANGELES.—Engineers who have insisted that production at Playa del Rey will not under any circumstances exceed 50,000 barrels are sticking by their figures, although they have seen their estimates of a 30,000-barrel peak fall by the wayside and seem in line to a forced admission of a 40,000-barrel output for at least a short period. Gathering of accurate production figures has been a problem, and the usual method of adding initial production to what the field previously produced has resulted in higher estimates than final totals will justify. The daily average passed 35,000 barrels for a short time, but production for the weekly period probably will not greatly exceed this figure.

Opinions differ sharply as to the probable extent of the field. If the intensive development spreads to the beach strips above and below the present center of activity, there is a possibility that field work is far from its peak. Failure to entend the producing area will result in a rapid decline of drilling operations and a corresponding drop in production. If field development spreads to the southeast and northwest through the medium of a few good completions, past estimates will be forced into the discard.

No outstanding completion has yet appeared to place the field in a class with other high pressure Los Angeles basin fields. During the development of Long Beach, Santa Fe Springs, Huntington Beach and other fields, many good wells were completed during the early period of development.

Production will be much higher for a time than it should normally be, due to the intense development of a very small area. If the field is not extended or if the companies holding large blocks do not join in the race to get the bulk of the recoverable oil during a short period, the decline will be rapid. It is true that many California fields have had slow declines where the gas pressure was low in the beginning, and the upper zone at Playa del Rey would normally fall in this class if developed conservatively.

Although a somewhat sluggish zone, the upper sand has been a fair trap and in the absence of high gas production will yield many good pumping wells. The inclusion of more than 1000 feet of oil sand and shale free from water makes the shallower zone attractive.

Average initial production of 15 representative completions in both zones was 500 barrels. This low average is being used for the basis of predictions that the field will not reach a much higher peak. Four of the most recent completions were finished in the deep zone and 11 in the shallow sands. Average initial production of the two groups was almost exactly the same. Not all of the deep wells are flowing and it is not unusual to produce these completions on the pump from the beginning.

Reports that shale and streaks of oil sand have been found below the schist have been circulated in the field, but these rumors have not been confirmed. The chist bed is ordinarily regarded as "the jumping off place" and doubt has been expressed concerning the importance of formations found below this broken bed.

Buttonwillow Test Progressing

Bakersfield, Calif.—Nordon Oil Corporation is coring in sandy shale at 5200 feet in Salisbury 1A, a wildcat test in the Buttonwillow district, and is considering a production test if present gas showings continue. The well is the first to pass through the heaving shale and caving forma-

tion found above 5000 feet and will be drilled to test possibilities of oil at a greater depth. Enough gas sand has been cored to justify a test but the well was ostensibly started to develop oil and not gas and will be continued for several hundred feet. No important oil showings have been found in cores which showed gas. The success of the well is passing through the caving formation which has baffled other operators, places it in an interesting class of wildcats, and subsequent drilling go a long way toward determining the accuracy of the theory that oil should be found below the gas zone.

Three-Year Old Long Beach Still Good for One Weekly Completion

Long Beach, Calif.—Long Beach, after more than three years of deep zone development, is still furnishing an average of one large well per week, with two or three smaller ones coming in from various depths to establish a weekly average initial production far above that expected of such an old field.

Despite the intense development of the past three years, neglected sectors and levels are being uncovered with remarkable precision and the small, 1400-acre field is still the largest potential producer in the state.

The Los Cerritos, south slope and southeast districts are being worked overtime and are responding with good producers. Dabney-Johnston Oil Corporation completed No. 77 as a 2000-barrel producer at 6060 feet, but the flow has increased to 2500 barrels through the aid of a compressor. This is one of the best south slope producers and may lead to deepening of several small shallow wells. McKeon Oil Company succeeded in completing No. 7 as the deepest producer in the south slope area, with an initial production of 1000 barrels from 7404 feet. This well was completed during the summer at 6955 feet but failed to produce consistently.

Star Petroleum Company's Colby 2, deepest producing well in the world, is flowing about 200 barrels from 8650 feet. This producer is located on the extreme north flank of the Los Cerritos extension and is a more important completion than the size of production indicates. The 7500-foot level in the Los Cerritos district is due for a more severe test than it has received in the past, with about 30 wells due for completion during the next two months.

California's New Well Total for 1930 Far Short of 1929 Record

Los Angeles.—Total new wells started in California during 1930 will run considerably higher than activity during the early months of the year indicated, but will fall far short of the 1929 record. Permits granted for new wells to date this year stands at 825, as compared with 1150 at the corresponding date of last year. With seven weeks to go from the last published report, the total new wells started during 1930 should approximate 930, with 950 as the probable maximum and 900 the minimum. The distribution of new wells is almost as wide this year as last, but fewer fields accounted for the large blocks of permits granted than was recorded during 1929, Playa del Rey and Long Beach have contributed more new wells than any other group of two, with Elwood and Ventura accounting for good portions of the total. Santa Fe Springs was one of the most active fields during all of 1929, but has made a miserable showing during 1930. Not a single new well was started in this field during the latter part of the present year.

Wildcatting in Santa Barbara County Shows Decline

Santa Barbara, Calif.—Active wildcats in Santa Barbara County total about one-half the number of a year ago, and only an important discovery will bring about an increase during the next three months. Operations were favorable to an expansion of wildcatting during 1928 and 1929, but the present year has failed to yield an important discovery in some of the most interesting districts.

Bolsa Chica Oil Corporation is drilling in brown shale at 3340 feet in Augur 191-1, a test in the Pacific Ocean a short way northeast of the Elwood field and the outcome of this well should immediately affect the trend of operations outside the high tide line along a considerable strip.

Discovery of the Elwood and Rincon fields along the ocean was responsible for drilling on several structures between the two fields. Strangely enough, no outstanding fields have been found to fill in the gap.

Interest in the Goleta and Point Concepcion districts has declined to a very low point. Standard Oil Company has reached a depth of 6672 feet in Gerber 1, a test in the latter area, but has developed a fishing job. General Petroleum Corporation is drilling in brown shale at 2800 feet in More 3, the third test in the Goleta district. The first wells drilled here developed high gas pressures but failed to make commercial oil production.

Empire Lease's Capital Increased

Los Angeles.—Empire Lease and Royalty Company has increased its capital from $5,000,000 to $10,000,000 for the purpose of expansion. The company recently purchased extensive holdings formerly owned by the Miley Oil Company, including a large lease at Kettleman Hills. Outstanding stock totals $2,777,660.

Plan Second Weed Patch Test

Bakersfield, Calif.—Shell Oil Company is preparing to make a second production test in Porter-Day 1, a wildcat located south of Edison and in the Weed Patch area, after coring good oil sand below 5775 feet. A string of 6⅝-inch casing was cemented at 5790 feet, after plugging back to this depth for the test. The well was drilled to 5962 feet, the last cores having shown sandy shale. A production test was made a few months ago below the shutoff over the oil zone at 5025 feet and the well responded with a flow of about 125 barrels of heavy oil. A surprisingly high casing pressure was developed, but the well fell just short of a commercial rating. Discovery of another heavy oil field near Bakersfield would be an important development, but the present excess of this grade of crude will limit drilling in new fields. Shell Oil Company controls the bulk of the land near the well.

New Map of Elk Hills Naval Petroleum Reserve

The oil field that was the first to be set aside by the United States government as a naval petroleum reserve, in the Elk Hills, California, is shown in detail on a scale of one inch to half a mile on a map recently issued by the Geological Survey, Department of the Interior, and obtainable from the Geological Survey at Washington for 10 cents. The surface features are represented by contour lines drawn at vertical intervals of 20 feet. The so-called "hills" are a really high upland about 16 miles long and six miles wide, with the highest part along a line near the middle, culminating at an altitude of about 1000 feet above the level of the adjacent plain.

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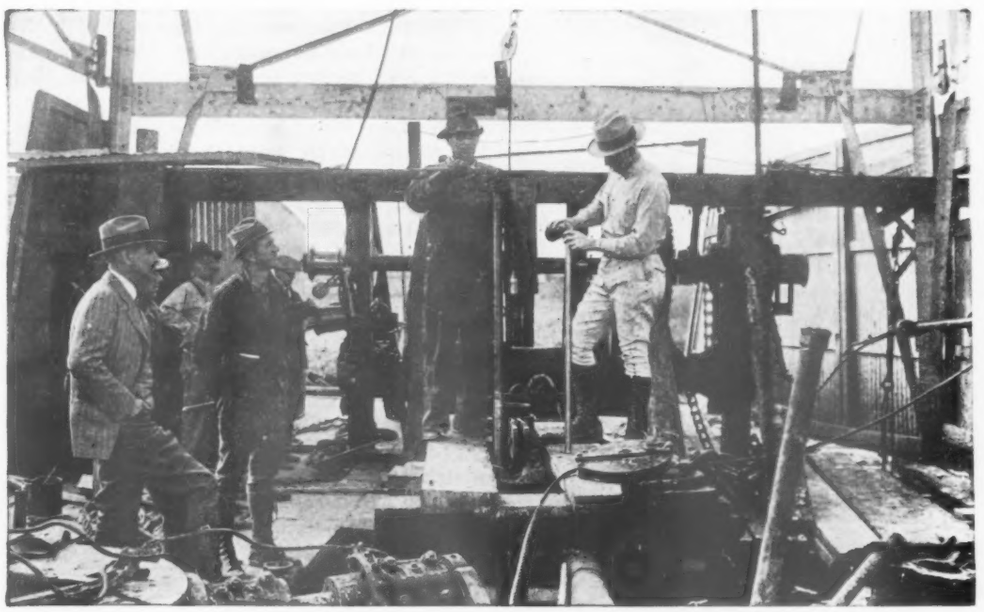

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Louisiana--Arkansas Field Notes

Zwolle Field Is Extended One Mile Southeast

SHREVEPORT. — An extension of one mile to the southeast was definitely added to the southeast part of the Zwolle field of Sabine Parish, Louisiana, where production is secured in the Zwolle marl and chalk, on Sunday, November 16, when Sabine Syndicate's Pearce 1, SW SE NW Section 10-7-11, was completed at 2392 feet flowing at the rate of 500 barrels of oil daily. Six-inch casing was set at 2290 feet, the Zwolle chalk rock having been topped at 2352 feet and the first break occurring where the oil began to flow. The well was still maintaining its flow Monday, November 17.

Loring Oil Company's Nona Mills Lumber Company 1, in the James Mason Survey of Sabine County, Texas, six miles south and west of the West Zwolle (Blue Lake) field, which had shown gas in a drill stem test, tested 500,000 to 1,000,000 cubic feet of dry gas when plug was drilled in, 6⅝-inch casing being set at 4151 feet with total depth of 4200 feet. The formation was a sandy shale with lime present and was encountered around 3400 feet in a series of wildcat tests drilled by A. H. Tarver and associates three miles north of the West Zwolle field. The Texas Company test is being drilled deeper. The gas show was probably near the top of the Eagle Ford.

Toteco Oil Company's Louisiana Long Leaf Lumber Company 1, NE NW Section 18-6-12, which had tested 20,000 barrels of hot salt water at 4077 feet, has set 300 sacks of cement in the hole to shut off the salt water, with the hope of drilling deeper.

In the northeast edge of the Zwolle field Lacey Barkett Oil Company by patiently waiting has completed a 75-barrel pumper in D'Anna 1, Section 26-8-12, which was completed in Zwolle chalk at 2412 feet. Six and five-eighths-inch casing was set at top of the Zwolle marl at 2194 feet.

Six miles due south of Zwolle east field production, Paramount Oil & Gas Company's Woolums 1, Section 11-6-12, is reported 20 feet in the Zwolle chalk at 2792 feet, checking somewhat lower than the east field producers.

There are 27 active operations now under way, counting new derricks and rigs in the edges and beyond Zwolle producing limits. Three new locations were announced during the week, all being in the general region of the southeast part of the field. Cartersville, Bossier Parish, producing from the Woodbine and for a time a rival with Zwolle for the lead in oil activities in this area, has but five operations under way, the limits of production long ago having been proven.

Gasser for Bellevue

Harry I. Morgan and Shreveport-El Dorado Pipe Line Company's Kendricks B-10, SE SW Section 22-19-11, on the southwest flank of the Bellevue shallow field, Bossier Parish, has been drilled in and completed as a 35,000,000 foot gasser at 1750 feet in the upper Trinity. The same owners are ready to spud in B-11 on the same lease in NE SW of the same section. About eight miles southeast of Bellevue production Girhig Company, of Oklahoma, has materials on the ground for a test in Section 16-18-10w, Webster Parish. The test will be drilled to the Woodbine or deeper. The operators have a 5000-acre tract.

In east Central Louisiana, Louisiana Gas & Fuel Company which took over a wildcat test, Pittsfield Plantation 1, Section 41-8-10e, Concordia Parish, abandoned the test as a dry hole at 2434 feet. Another wildcat in Northeast Louisiana, Arkansas Louisiana Pipe Line Company's Griffith 1, NE NW Section 17-22-10, west Carroll Parish, was abandoned as a dry hole at 3005 feet.

Two set-backs were given the Grand Cane extension of the Holly field of De Soto Parish. Odell and Lawton abandoned Tidwell-Tull 1, Section 11-13-14, De Soto Parish, as a salt water hole at 3095 feet. In Section 22-13-14, J. W. Clark bailed some oil from Tidwell 1 at 3083 feet after having bailed dry at 2952 feet, but will probably deepen.

Wilmer J. Thomas' Usrey and Arnold 1, Section 36-15-15, Ouachita County, Arkansas, east of production in Smackover, was abandoned as a dry hole in gummy shale at 2418 feet. H. L. Hunt, Incorporated, has abandoned for the second time Trammell 1, SW SW Section 28-18-12, Union County, the hole being junked at 4365 feet.

Graves and associates' Walker, Trustee, 1, SW SW Section 9-14-18, Ouachita County, Arkansas, six miles north of the little Mount Holly field, using a small pumping unit, is making 50 barrels of fluid daily, 90 per cent salt water. The well checked high, compared to Mount Holly, having topped the Nacatosh at 1352 feet. A sandy shale showing oil was encountered from 1869-73 feet. Arkansas-Louisiana Pipe Line Company has spudded in Jno. Jansen 1, NE NE Section 35-8-24, Logan County, Arkansas.

Jackson Field Adds 8,000,000 Foot Well

JACKSON, Miss.—Love Petroleum Company's Maley 1, SE NW Section 15-5-1e, Hinds County, which made about 25 barrels of 13.1 gravity oil and 500 barrels of salt water daily by heads recently and which was being standardized on Sunday, November 16, was making an estimated 8,000,000 cubic feet of gas daily and 1000 barrels of hot salt water with only a scum of oil. Total depth is 2495 feet, Midway shale having been topped at 2387 feet and Midway chalk exactly 100 feet lower. Elevation is 257.3 feet. It is hoped now to cut off the water and make the well a commercial gasser.

During the week Gulf Refining Company's Hamilton Estate 1, SW SW Section 4-5-2e, Rankin County, over two miles northeast of gas production, tested 1800 feet of salt water when plug was drilled with six feet of chalk at 2626 feet, elevation being 284 feet. The well is being deepened.

After having trouble with a bad casing and being compelled to run a string of 4½-inch pipe inside the 6⅝, Hawkeye Oil & Gas Company has succeeded in completing Jackson's twenty-fifth gasser in Webster 1, NE NW Section 15-5-1e, Hinds County, which was swabbed in at 2478 feet with four feet of midway chalk, making 10,000,000 to 15,000,000 feet of dry gas daily. The test topped the Midway chalk at 2474 feet after topping the Midway black shale at 2375 feet. Elevation is 2696 feet.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Badgett & Cooper, Miller 1, ne nw sw 25-4n-8w	¶4	1840
Clyde Kahl, McKenna 1, sw c ne nw 31-6-9w	*	4980
English Drlg. Co., Abernathy 7, sw c ne se 31-6-9w	*	2312
CARTER COUNTY—		
M. G. R. Oil Co., Mitchell 2, se c 24-1s-3w	815	2191
CREEK COUNTY—		
Campbell, Cothran and Deep Rock, Imble-Reading 1, sw nw ne, 15-14-10e	50	2697
Wm. Sherry et al, Gooch 1a, c sw nw 21-16-11e	¶3¼	2175
H. U. Bartlett, Sneed 1, cel nw nw 20-18-9e	¶3½	2595
Jackson and Wise, Jackson 1, nw c ne sw 14-19-9e	*	2236
Johnson Oil & Refining Co., Henegha 2, sw c se 11-19-9e	*	2192
GRADY COUNTY—		
Meridian Gas Co., Kinnard 3, cwl se ne 36-4n-8w	¶8	2025
HUGHES COUNTY—		
Magnolia Pet. Co., Jackson 2, ne sw ne 17-7-8e	¶32	2926
Canady, Canard 1, nw c sw 29-9-12e	*	4505
Mid-Kansas O&G, Street 1, sw nw sw 16-7-8e	*	3576
KAY COUNTY—		
McFarland, Simonds 8, csl nw 11-27-3e	*	1480
LE FLORE COUNTY—		
Red Bank Oil Co., Fee 1, se c sw nw 23-9-24e	¶6	5401
MARSHALL COUNTY—		
R. L. Keener, Barnard 1, nw c ne sw 28-5s-6e	*	1360
McINTOSH COUNTY—		
Deep Rock, Williams 2, c ne se 34-12-14e	¶½	742
A. Moffitt, Taylor 1, nw c ne sw 29-12-15e	*	2382
MUSKOGEE COUNTY—		
Taylor and Geiger, Thompson 1, sw c nw nw ne 17-15-15e	¶½	835
C. F. Finefield et al, Murell 1, se c 5-15-18e	35	984
R. F. Ray et al, Canard 1, nw c sw ne 20-15-18e	¶2½	1328
I. T. I. O., Wilson 1, sw c 31-12-19e	¶1½	605
Mack Drlg. Co., Rowe 1, se c 27-16-15e (owdd)	*	1926
B. H. Young et al, Richards 1, c ne nw 34-16-15e	*	1268
J. R. Parks, Rentie 2, c ne sw 15-15-18e	*	1345
Wilson and Johnston, Jordan 2, ne c sw se 14-13-18e	*	779
Bower et al, Griffin 1, (owdd) nw c se ne 23-13-18e	*	995
OKFUSKEE COUNTY—		
F. Cusack et al, Smith 15, sw c se ne 11-11-11e	*	3552
OKLAHOMA COUNTY—		
Wirt Franklin Pet. Corp., Shahan 1, se sw sw 2-11-3w	2867	6212
Hall and Briscoe, Mueller 1, sw se nw 2-11-3w	21,670	2420
Minnehoma Oil Co., Pugh 1, sw c nw 2-11-3w	60,500	6242
Sinclair O&G and Independent O&G, School land 2, nw ne sw 36-11-3w	16,820	6615
Coline Oil Co., Olds 4, ne c nw 24-11-3w	¶18	5200
I. T. I. O. et al, Ferndale 3, sw ne ne 11-11-3w	9630	6455
OKMULGEE COUNTY—		
Kirkland and Son, Brown 4, cnl sw sw 9-15-13e	12	1971
Elm Oil Co., Rentie 24, se sw se 13-14-14e	15	1020
Independent O&G, Tucker 1, sw c se nw 9-15-14e	*	2342

Tabulation and Comparison on page 64

Company, Well and Location	Initial Production Bbls.	Depth
OSAGE COUNTY—		
Atlantic Oil Prod. Co., 8, cnl s2 sw 19-25-8e	45	2490
Western American Oil Co., 16, ne c sw ne sw 4-24-10e	*	2154
PAWNEE COUNTY—		
Johnson O&R et al, Mills 1, ne c se nw se 35-20-9e	*	2111
PITTSBURG COUNTY—		
Central States Light & Power Co., Curry 2, sw se se 9-7-18e	¶8	1910
Koehler 2, sw c 11-7-18e	¶25	1810
Nolan and Nolan, Koehler 1, ne c 15-7-18e	¶14	1850
Apex Oil Co., Walker 1, nw c se 18-6-13e	*	1600
Cities Service Co., Featherstone 1, c nw se 9-6-17e	*	3004
PONTOTOC COUNTY—		
Benedum and Trees, Wallen 1, nw se se 28-5-5e	8	2399
POTTAWATOMIE COUNTY—		
Gypsy Oil Co., Horn 2, nw c ne 23-6-3e	4525	3505
I. T. I. O., Davidson 6, se c nw 23-6-3e	770	3471
SEMINOLE COUNTY—		
Amerada Pet. & Dixie Oil Co., Morris 1, se sw nw 29-9-6e	2115	4123
Amerada, Tiger 1, nw ne sw 3-8-5e	2710	4124
Deep Rock, Whitworth 1, nw sw ne 30-8-8e	2535	3899
Sinclair O&G, Caesar 1, nw c se 29-6-6e	735	2737
Neal and Milton, Thomas 1, nw ne sw 9-6-7e	*	3035
TULSA COUNTY—		
Preston et al, Perryman 1, ne c nw nw 4-17-14e	25	1492
Murray et al, McIntosh 1, c ne sw 17-19-14e	*	1320
WAGGONER COUNTY—		
J. W. Edwards, Shockley 2, ne c ne 21-17-16e	25	893
Coffey et al, Cruel 1, csl sw ne 10-17-16e	*	718
J. W. Edwards, Jackson 1, ne c 4-16-16e	*	977
Duke et al, Brown 1, ne c sw nw 36-16-17e (owdd)	*	868
WOOD COUNTY—		
Bu Vi Bar Pet. Co., Gypsy, I. T. I. O. and Prairie, Fee 1, se c sw 10-25-15w	*	6104

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Barbara Oil Co., Root 1, c n2 sw 24-33-13w	*	4894
COWLEY COUNTY—		
Lewis Prod. Co., Roberts 1 "A", ne c sw 12-32-4e	¶¼	720
Roth and Faurot, Brant 2 "A", sw c se sw ne 12-32-4e	¶1	722
ELLSWORTH COUNTY—		
Slick, Pryor and Lockhart and Darby Pet. Co. et al, Heiken 1, nw c 25-17-10w	1800	3230
GREENWOOD COUNTY—		
York State Oil Co., Westcott 11, cwl e2 nw 33-22-11e	100	1930
HARVEY COUNTY—		
Shell and McPherson O&G, Haury 1 "B" (owdd) sw ne sw 11-23-2w	*	3000
LYON COUNTY—		
Phillips Pet. Co. et al, Barr 1, sw nw nw 29-20-10e	*	2498
SEDGWICK COUNTY—		
Fisher & Lauck, Trustee 8, nw ne se 19-27-2e	730	2947
Derby Oil Co., Eastborough 4, ne c nw ne 19-27-2e	2355	2960
National Ref. Co. and Spencer, Murdock 2, se c 18-27-2e	1620	2938
STEVENS COUNTY—		
Western Prod. Co., Ponder 1, c ne 10-32-38w	¶7	2530

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Farm 4053 tr (3 wells)	*	....
Farm 3791 tr 1	5	....
Melvin, 291	2	....
Forest Oil Corp, Fee, 1 well	2	....
Q. Q. Lynn, Booth 17	4	....
George Crooks Estate, Crooks 17	6	....
Willrock Producing Co., Willrock 7	2	....
Willrock 8	2	....
Ryand & Ball, O'Neil 1	7	....
L. P. Mullhaupt, Quintruple 2	2	....
Brink & Lincoln, Fee 42	3	....
J. Magee, Bingham 371 tr 8	3	....
Producer Bank & Trust Co., Bingham 143 tr 9	2	....
BUTLER COUNTY—		
J. S. Walker, Nupher 4	22	....
J. C. Trees, Held 1	¶1	....
CENTRAL-MIDDLE FIELD—		
T. H. Kervin, Berry 1	7	....
Cherry Run Oil Co., Lot 8 tr 49	¶1	....
J. G. Cochran, Brown 16	*	....
WASHINGTON COUNTY—		
Rapp Oil & Gas Co., McCaslin 1	¶¼	1281
GREENE COUNTY—		
Manufacturers Light & Heat Co., Chambers 3441	¶¼	1921
BEAVER COUNTY—		
J. D. Reed, Hughes 1	*	....
CLARION-VENAGO COUNTIES—		
Nupher & Co., Nupher 4	¶½	....
Corbett & White, Fee 12	2	....
S. P. McClarmont, Davis 3	2	....
United Fuel Gas Co., Brockelhurst 3962	¶1	....
Thomas McLaughlin, McLaughlin 25	¶1	....
Exchange Bank & Trust Co., Reed 3	4	....
Emma Hulis, Graham 23	2	....
Hess & Master, Heeter 10	4	....
W. B. Kapp & Co., Kish 29	¶1	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
W. H. Bickel, Collins 1	¶¼	1802
F. F. McIntosh, Jarvis 1	¶¼	....
G. L. Cabot, Roberts 1	¶¼	1920
C. B. Lewis & Co., Morris 1	¶¼	....
BOONE COUNTY—		
Pond Fork Oil & Gas Co., Yawkey Freeman Coal 2	¶¼	2266
MINGO COUNTY—		
Red Jacket Consolidated Coal & Coke Co., Fee 13	¶½	1502
WAYNE COUNTY—		
Bull Creek Gas Co., Crumb 1	¶½	2700
WIRT COUNTY—		
Hope Construction & Refg. Co., Waykins 3520	*	2651
DODDRIDGE COUNTY—		
Pittsburg & West Virginia Gas Co., Osborn, 4995	¶½	1923
BRAXTON COUNTY—		
Philadelphia Nat. Gas Co., See 7489	*	2659

INDIANA

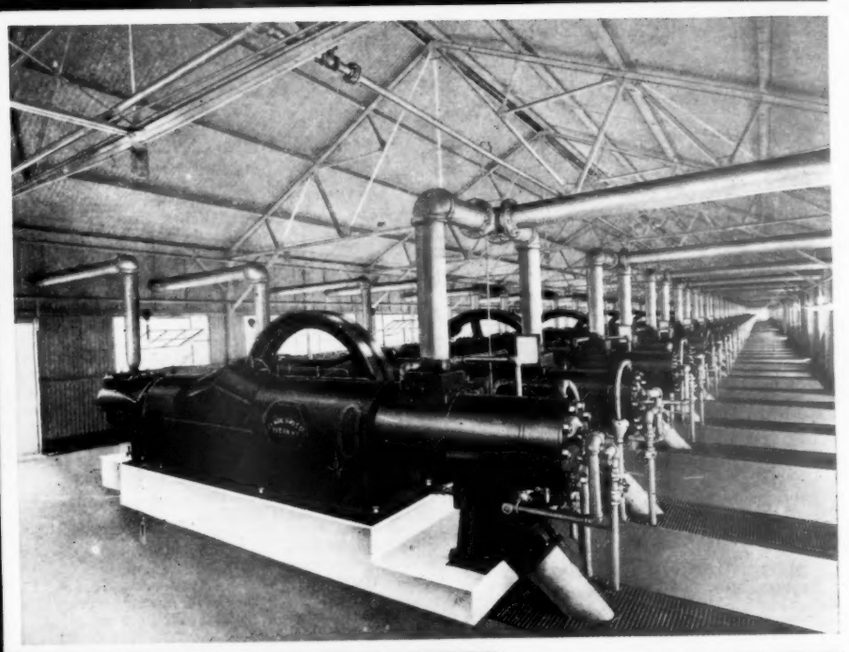
Company, Well and Location	Initial Production Bbls.	Depth
PIKE COUNTY—		
C. C. Taliaferro Jr., George 4	¶¼	1130
V. E. Bolyard & Co., Crow 1	¶1	1123
United Oil Corp., Atkinson 4	1	1044
SULLIVAN COUNTY—		
Fred F. Bays, Jamieson 1	*	800

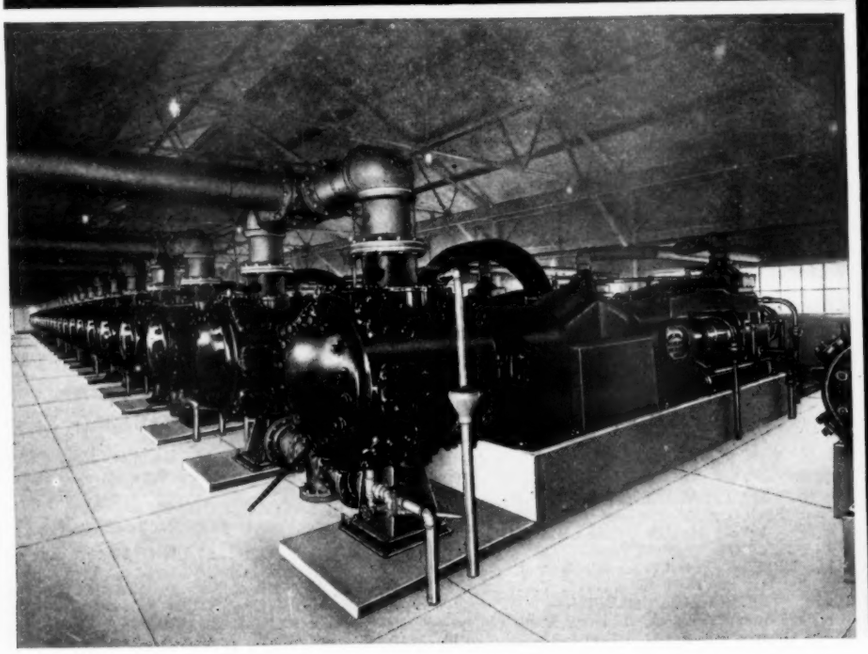
ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
WABASH COUNTY—		
Highland Oil & Gas Co., Mullinax 5	30	1564
Edrire Oil Co., Wright 4	*	1605
LAWRENCE COUNTY—		
Charles Karnes & Co., Ackman 2	*	440

CLARK Engines in the Manufacture of

Phillips Pet. Co. plant in Texas Panhandle, making 75,000 gallons of gasoline per 24 hours





Phillips Crane County plant at McCamey, Texas, making 40,000 gallons per 24 hours

are PRE-EMINENT

Natural Gasoline

CLARK Engines manufacture more Natural Gasoline every day than any other make of engine.

More than nine-hundred Million Gallons of Natural Gasoline are made annually with CLARK engines.

CLARK BROS. COMPANY

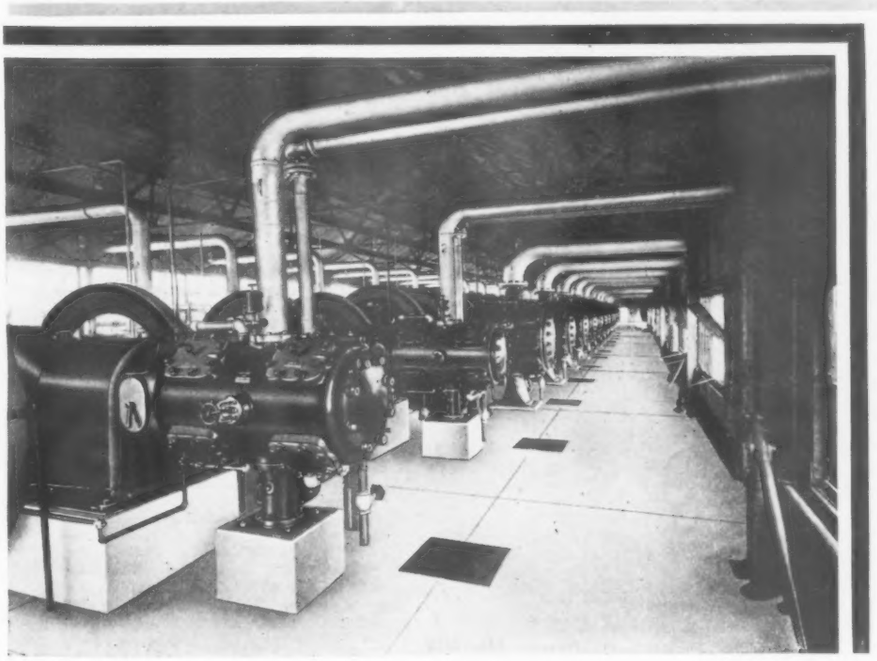
Olean, N. Y.

Export Office: 150 Broadway, New York City

Mid-Continent Sales Offices: Tulsa and Fort Worth

Warehouses: Tulsa, McCamey and Sweetwater, Texas; Artesia, N. Mex.

California: Smith, Booth, Usher Co., Los Angeles



Humble Oil & Ref. Co. Yates pool plant, making 25,000 gallons per 24 hours.

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
American Oil Co., Childs 1	20	....
Forest Oil Corp., Fee 1	2	....
P. F. Shaner & Co., Roberts 1	8	....
Swarthout & Wood, Prosser 1	2	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
WARREN COUNTY—		
Craft & McDonald, Francis 1	*	315
McLEAN COUNTY—		
Carmon, Thompson & Co., Sommers 2	100	....
BELL COUNTY—		
T. J. Asher & Co., Hemminger 1	¶3	2850
UNION COUNTY—		
Central Gas Corp., Buchannan 1	30	576
HANCOCK COUNTY—		
Chester Oil Co., Bates 2	¶2	....
D. T. Bolling, Richards 3	25	....
OHIO COUNTY—		
Chester Oil Co., Patton 12	30	....
Leeper Oil Co., Hamilton 5	50	....
Rex-Pyramid Oil Co., Blair 1	60	....
Hupp, Duff & Co., French 3	10	....
J. R. Pointer & Co., Lyons & Co. 2	¶2	....
L. C. Young, Sapp 1	¶½	986
Rome & Thomas, Feemster-Minsatt 5	15	....
Cumberland Petroleum Co., Wedding 3	20	....
Bigler & Co., Sharp-Johnson 2	*	986
Hall & Garrison, Edge 1	*	....
Smith & Co., Taylor 1	*	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Herlam Schramm & Co., Cummons 16	*	380
Elmer Wickens, Wickens 10	2	834
JEFFERSON COUNTY—		
Richard Graham & Co., Cathers 1	5	1200
Boyce Drilling Co., Wilt 4	10	1400

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MEDINA COUNTY—		
Ohio Fuel Gas Co., Hutton 1	¶¼	....
Oko Oil & Gas Co., Essig 44	25	380
Curtis & Co., Brown 2	3	407
Edson Son Co., Frank 6	2	429
Peavy & Co., Stratton 14	*	475
ATHENS COUNTY—		
Harry J. Smith & Co., Curtis 7	2	75
Goddard 1	2	85
Bode & Co., Whaley 1	2	1198
Townsend & Co., Marchant Estate 1	3	1120
ASHLAND COUNTY—		
The Kemrow Co., Weidman 1	*	....
Wile & Co., Mosher 3	5	612
Clifford & Kolb, Myers 6	*	704
LICKING COUNTY—		
Emerald Pete. Co., Johnson 1	90	3002
The Preston Oil Co., Levingston 1	2	581
PERRY COUNTY—		
Mid-East Oil & Gas Co., Scallon 1	¶2¼	3148
Berlin & Co., Emmert 1	¶¼	920
MUSKINGUM COUNTY—		
Wittmer Prop. Trus. Border 1	¶¼	3932
Fetty & Louchery, Hawthorn 1	*	1306
VINTON COUNTY—		
Raccoon Oil & Gas Co. Stanley 6	6	1095
FAIRFIELD COUNTY—		
Gas Producing Co. of Ohio, Holliday 1	6	1967
HOCKING COUNTY—		
Ohio Fuel Gas Co., Sellers 1	¶¼	2204
WAYNE COUNTY—		
Ohio Fuel Gas Co., Ogden 1	¶½	....
ASHTABULA COUNTY—		
Schaeffer Bros., Titus 1	¶8	2754
HOLMES COUNTY—		
Ohio Fuel Gas Co., Haudenschild 1	*	....
LORAIN COUNTY—		
Loram Oil & Gas Co., Sorger 1	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ALLEN COUNTY—		
H. G. Kelley & Co., Hanes 1	10	....

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
ISABELLA COUNTY—		
Gibson-Johnson-Borden Inc., Maian 1	150	3664
MANISTEE COUNTY—		
Swastika Oil & Gas Co., Cromer 1.	*	2060

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
LONG BEACH—		
Chicksan Oil Co., Robertson 4	100	7575
Otis Hoyt, 11	450	6991
Woods & Callahan 4	200	7545
The Texas Co., Robinson 4	200	7170
PLAZA DEL REY—		
Black Gold Oil Co., Heney 1	550	4635
Burket & Braun 3	500	4570
Beverly Hills Pet. Corp., Burkholder 1	450	4196
Joseph M. Devere, Baby Joe 1	300	6360
Elmer Oil Co., 4	1200	6060
Goodfield Pet. Co., 3	500	4480
George F. Getty 6	350	4420
A. T. Jergins, Moore 1	400	4601
Thos. Kelly & Son, Kelly-Prentiss 6	250	4260
La Bara Oil Co., Strain 1	500	6070
Ed. C. Lewis, Wolfe 3	550	4155
Nelson Pet. Co., 3	600	4410
VENTURA—		
Shell Oil Co., Taylor 63	500	4495
Taylor 51	1700	6935

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
OUACHITA COUNTY (Smackover)—		
Wilmer J. Thomas, Usrey & Arnold 1, 36-15-15	*	2418
UNION COUNTY (Smackover)—		
Root Ref. Co., Wilson 5, 6-15-15 (sec. compl.)	23	2005

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Louisiana G&F Co., Jeter 3, 23-17-12	¶2½	2510
Woodley Pet. Co., Harris 3, 14-17-12.	¶8	2465
RICHLAND PARISH—		
Palmer Corp, Boykin B-1, 33-17-6e.	¶10¾	2450
Southern Carbon Co., M. L. McCoy C-2, 1-16-6e	*	2491
UNION PARISH—		
Bahan & Bahan, Tanner 2, 19-22-4e.	¶3¼	2177

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BAYOU CHOCTAU—		
Texas Gulf Sulphur Co., Wilbert 4	*	656
LEESVILLE—		
The Texas Co., Leesville 1	*	5662
LOCKPORT—		
Yount-Lee Oil Co., Miller 1	600	6668
SORRENTO—		
Gulf Ref. Co., United Lands Co. 7	*	2275

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Sun Oil Co., Fisher 1	960	5659
McAlbert Oil Co., Higgins 1	1385	5316
BATSON—		
Paraffine Oil Co., Paraffine 86	15	470
Ada Belle Oil Co., McLean 144	*	1370
CHOCOLATE CREEK—		
The Texas Co., Thomas 1	*	5956
DYERSDALE—		
Golden Star Pet. Co., McDade 1	*	6016
ESPERSON DOME—		
Cranfill-Reynolds, Esperson 17	200	3951
HEISKELL—		
Rycade Oil Co., Heiskell 1	*	5929
HULL—		
Republic Prod. Co., Dolbear 22	*	3250
W. B. Flynn, Able 7-B	*	1000
PETTUS—		
Union Prod. Co., Ray 25	*	4217
PORT NECHES—		
Gulf Prod. Co., Stark 1	*	6988
REFUGIO—		
Phillips Pet. Co., Mercy Academy 1	151	6423
Houston Oil Co., Rose Lambert 1	300	5922
SARATOGA—		
Rio Bravo Oil Co., Cotton 100-B	7	175
SOUTH LIBERTY—		
The Sun Oil Co., Mitchell 23	5	875
Mitchell 25	10	890

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
Texas Co., H. L. Brumble 2, E. F. Mitcheson sur	¶¼	2350

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BEXAR COUNTY—		
Collin & Marosis, Halbardier 5	12	725
Eckert & Sons, John Brehm 1	8	700
DUVAL COUNTY—		
Magnolia Pet. Co., Benavides 3-A	¶15	2848
Sloan et al, Luby 1	*	lcn.
DARST CREEK—		
Humble O&R Co., Denman 19-A	800	2590
Denman 20-A	1200	2585
D. D. Baker 9	225	2528
Magnolia Pet. Co., Rand Miller 5	400	2622
Thomas Dix 13	425	2570
Rand Miller 6	50	2627
Annie Knodel 4	550	2534
NUECES COUNTY—		
South Texas Prod. Co., Walters 3	¶20	1984
Ollie Purl 2	¶35	1986
ZAPATA COUNTY—		
XRC Oil Corp., Montemayor 2-D	100	1308

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Geo. Abercrombie et al, Wells 1	*	1353
Bridwell Oil Co., Falls County 1-B	*	1265
H. P. Key et al, Fish 1	*	1450
Panhandle Ref. Co., Snider 2	*	802
COOKE COUNTY—		
Deep Rock & Faith Oil Corp., Lawson 2	20	1361
DENTON COUNTY—		
Lloyd Oil Corp., Jacobs 1	*	1800
THROCKMORTON COUNTY—		
Moore & Edwards, Parrott 1	*	780
YOUNG COUNTY—		
Baker & Pardue, Donnell 2	¶1½	622
Fred Baron et al, Kisinger 2	¶15	2516
W. F. Brazelton et al, McComas 1	*	520
Bridwell Oil Co., Bloodworth 1	*	938
W. L. Deininger et al, Coleman 1	*	1035
Peyton F. Gwynn et al Jeffery 2	325	728
King Royalty Co. et al, Kirkland 2	85	730
Lloyd Oil Corp., Marshall 1	*	630
Maer & Hamilton, Jeffery 2	200	830
E. R. Riggs et al, Kirkland 2	210	729
Larimore 16	310	706
Roeser-Pendleton, Inc. & T. B. Slick, Jeffery 1	*	4092
E. H. Sharp et al, Burris 1	*	744
J. F. Stover et al, Johnson 1	10	519
Swink & Smith, Belknap 1	170	664
Terrell-Willis & Fain, Cathright 1	*	575
The Texas Co., Finch 1-B	265	669
J. F. West et al, McBrayer 1	*	724
Whatley & Kinsley, Roach 1	*	730

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Hynes & Engle, Leach 1	¶¼	1178
McCarter et al, Hazlewood 1	*	1150
Prairie O&G Co., Turner 2	*	2250
CALLAHAN COUNTY—		
Meredith & Benton, Berry 2	¶5	537
COLEMAN COUNTY—		
Atlantic Oil Prod. Co. et al, Taylor 2	¶3	1118
Kirk et al, Coursey 1	*	3240
Prairie O&G Co., Burns 1	*	1636
Sterling O&G Co. et al, McCullouch 1	20	2125
EASTLAND COUNTY—		
Nunn et al, Higgins 1	*	1496
SHACKELFORD COUNTY—		
H. & H. Drlg. Co. et al, Simpson 1	*	760
S. A. Thompson et al, Griffith 1	*	750
STEPHENS COUNTY—		
Grantor Oil Co., Swenson 38	10	1776
Swenson 39	6	1797
Swenson 40	20	1826

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ECTOR COUNTY—		
Amerada Pet. Corp.-Skelly Oil Co., University 4-B	350	3691
Gulf Prod. Co., Connell 3-B	140	3700
University 5	545	3670
JONES COUNTY—		
C. R. Pope et al, Swann 1	200	2539
WINKLER COUNTY—		
Empire Gas & Fuel Co., Daugherty 1-C	*	3200

(Continued on page 98)

PERMITS GRANTED FOR NEW WELLS

TEXAS

ARCHER COUNTY — R. M. Lanfair, Archer City, J. A. Bell, 40, 1, B 108, DCSL sur, 160 ft from w and 150 ft from s line. Geo. L. Pace, Wichita Falls, F. C. Green, 160, 2, J. Levins sur, 150 ft from n and 2037 ft, from w line. Fain-McGaha Oil Corp., Wichita Falls, E. V. West, 5, 1, No. 2 Megargel sur, 150 ft from s and e lines of Blk 16. Perkins & Cullum, Wichita Falls, Falls C.S.L., 50, 2, Falls C.S.L. sur, 150 ft from n and 450 ft from w li Blk. 19.

BEXAR COUNTY — Gatlin Oil Co., San Antonio, I. A. Beck, 279, 3, Montoz sur, 300 ft w of No. 1. Eckert & Son, San Antonio, J. J. Brehm, 110, 4, 325 ft s of No. 3. A. G. Nagel, San Antonio, M. Boeck, 298, 1, No. 36 A. Zamora sur, 520 ft from w and 1300 ft from s line. Penn, Sun, Magnolia & Collett, Dallas, D. Kosub, 175, 1, No. 11, J. W. Riall sur, 600 ft e of center of w line.

BAYLOR COUNTY — A. R. Smith, Seymour, U. C. S. L., 40, 1, Upsur C.S.L. sur, 150 ft from s and w line of Blk. 50.

BROWN COUNTY—C. S. Willmot et al, Cross Cut, M. J. Suttles, 600, 21, B 140, R. Mitchell sur, 2514 ft from n and 540 ft from w line. Young Bros. & Alexander & Mitchell, Fort Worth, E. P. Kilgore, 75, 3, No. 153 N. B. Mitchell sur, 150 ft from s and e lines.

BURLESON COUNTY—Victoria Danczek, Houston, M. P. Gougher, 118, 1, A. Thompson sur, 175 ft from w and 165 ft from s line.

CALLAHAN COUNTY — M. C. Levinson, Baird, J. S. Hart, 40, 6, S 7, D&D Asy. sur, 750 ft from n and 450 ft from e line. J. E. Bedingfield, Cross Plains, E. Henderson, 80, 1, Blk. 69, CCSL sur, 750 ft from e and 1150 ft from s li w½.

CALDWELL COUNTY—Jno. T. Callahan, San Antonio, W. H. Callihan, 176, 3A, J. R. Miller sur, 1225 ft from e and 630 ft from s line. L. H. Wentz, San Antonio, Mrs. S. Mebane, 616, 1, F. Berry sur, 150 ft s of center of n line.

CARSON COUNTY — Lone Star Gas Co., Dallas, J. C. McConnell, 160, 1, S 65, B 4, I&GN sur, 660 ft from s and e lines of sw¼.

CHAMBERS COUNTY—Humphreys Corp., Houston, E. W. Baker, B. 38, B 2, H. Griffith sur, 320 ft from e and 70 ft from s line; L. E. Fitzgerald 4, 1, H. Griffith sur, 350 ft from n and 60 ft from w line. Yount-Lee Oil Co., Beaumont, Winfree, 1, W. D. Smith sur, 847 ft from s and 732 ft from e li of survey.

CLAY COUNTY—Houston & Houston, Petrolia, M. Browning, 80, 2, B 52, Byers sur, 150 ft from s and e lines.

COLEMAN COUNTY — Smith & Shaffer, Texon, S. M. Russell, 169, 4, M. Martinez sur, 1158 ft from n and 400 ft from e li Blk 10.

COOKE COUNTY—C. C. Lanier, Gainesville, E. Ball, 40, 1, J. Bradshaw sur, 150 ft from n and w lines.

ECTOR COUNTY—Landreth Prod. Corp., Fort Worth, Univ. T., 160, T5, S 3, Blk 35, 330 ft from n and 3080 ft from e li sec.

FORT BEND COUNTY—Gulf Prod. Co., Houston, J. M. Moore, 27, J. Frazier sur, 4492 ft from n and 1552 ft from w li of sec.

GUADALUPE COUNTY—Texas Co., Houston, Knobloch, 75, 7A, J. B. Robinson sur, 450 ft from ne and 650 ft from se line; 6A, 1067 ft from ne and 650 ft from se line; L. Anderson, 50, No. 6 J. S. Darst sur, 613 ft from n and 1050 ft from e line; P. Roamel, 53, 4, J. R. Robinson sur, 450 from sw and 850 ft from se line; R. C. Appling, 150, J. Hodges sur, 850 ft from nw and 450 ft from sw line.

GUADALUPE COUNTY—Gulf Prod. Co., Houston, H. H. Tadlock, 100, 5, J. Darst sur, 1053 ft from n and 150 ft from w line. Humble O&R Co., Houston, S. E. Denman, 50, 1, J. Darst sur, 150 ft from n and w lines.

GONZALES COUNTY—A. R. Garrett, San Antonio, R. Karney, 100, 1, C. D. Sayre sur, 200 ft from s and w lines.

HARDIN COUNTY — Rio Bravo Oil Co., Houston, Fee, 158, V 102A, J. F. Cotten sur, 200 ft n of No. C93A. Paraffine Oil Co., Houston, Fee 12, 86, Green sur, 560 ft from w and 166 ft from s line.

Tabulation and Comparison on page 64

HARRISON COUNTY — C. M. Bagley, Bethany, La., L. S. Smith, 68, 1, L. Womack sur, 350 ft from n and e lines.

JACK COUNTY—A. Minnich, Archer City, C. C. Bloodworth, 33, 7, R. A. Roper sur, 2100 ft from n and 1635 ft from e line.

LIVE OAK COUNTY—Illinois Exploration Co., Houston S. E. King, 195, 1, Blk. 3, J. McMullen sur, 450 ft from se and 460 ft from sw line. Penn & Devonian Oil Co., Dallas, R. C. Lyne, 640, 1, S 138, AB&M sur, 2640 ft from n and e lines of sec.

LIBERTY COUNTY—Cranfill & Reynolds, Houston, Moores Bluff, 632, 6, M. Duncan sur, 400 ft w of No. 5; 7, 400 ft s of No. 4.

LOVING COUNTY—Lockhart & Co., Pecos, R. L. Allen, 4, S 82, B 33, H&TC sur, 440 ft from n and e lines of sec.

MILAM COUNTY — J. E. McKee, Waco, W. R. Littleman, 29, 1, C. Chevalier sur, 150 ft from n and 225 ft from w line.

MEDINA COUNTY—Pearson Oil Co., San Antonio, Suburban Farms, 7, Sec. 4A, sur, 750 ft from e and 250 ft from s li sec; 8, Sec. 5A sur, 250 ft from s and w lines of sec; 9, Sec. 9A sur, 250 ft from n and 50 ft from e li sec; 10, Sec. 9A sur, 750 ft from n and e lines of sec; 11, Sec. 5A sur, 750 ft from s and w lines of sec; 12, Sec. 5A sur, 150 ft from n and e lines of sec. 13, Sec. 8A sur, 450 ft from w and 150 ft from n line of sec; 14, Sec. 3A sur, 500 ft from s and 150 ft from e li of sec.

McLENNAN COUNTY—Phillips & Oliver, Waco, G. McNamara, 479, 3, S 1, R 6, T. Vega sur, 300 ft s of center of line.

MITCHELL COUNTY — California Co., Midland, W. L. Foster, 640, 10, S 6, B 28, T&P sur, 1650 ft from w and 660 ft from s line.

NUECES COUNTY—Hale & Hall, Corpus Christi, R. Poenisch, 2500, 1, S 31, B 18, Encinal sur, 1470 ft from w and 600 ft from s li sur.

PALO PINTO COUNTY—Abbott & Ford, Granbury, W. Lee, 232, 5, B 14, Townsend sur, 700 ft from n and 1100 ft from e line.

PANOLA COUNTY — Corrected location. United Prod. Corp., Houston, F. A. Baker, 5, B. C. Jordan sur, 1000 ft from s and 550 ft from e line.

PECOS COUNTY—Mid-Kansas O&G Co., Fort Worth, White-Baker, A, 640, 2, S 12, B 194, GC&SF sur, 330 ft from w and 250 ft from s li sec. Cardinal Oil Co., San Angelo, J. H. Tippett, 136, 1, S 62, B 194, GC&SF sur, 750 ft from s and e li s½ of s½.

RED RIVER COUNTY—Lloyd Oil Corp., Fort Worth, R. H. Mace, 86, 1, Wm. Cullom sur, 150 ft from n and e lines. D. M. Buffington, Fort Worth, L. H. Moore, 80, 1, D. Cornelius sur, 160 ft from s and w lines of sur.

RUSK COUNTY — E. W. Bateman, Fort Worth, I. D. Crim, 80, 1, E. G. Sevier sur, 400 ft from n and 3088 ft from e li survey. Stroube & Stroube, Corsicana, W. H. Frederick, 14, 1, Blk 9, J. Ximinez sur, 165 ft from e and 160 ft from s line; 2, 320 ft n of No. 1; 3, 330 ft n of No. 2; 4, 330 ft n of No. 3; 5, 330 ft n of No. 4; 6, 330 ft n of No. 5.

SHACKELFORD COUNTY — St. Marys O&G Co., Moran, J. H. Elliott, 80, 1, S 8, LAL sur, 250 ft from e and 800 ft from s li ne¼.

STEPHENS COUNTY—Outlaw & Russell, Ranger, B. E. Langford, 80, 1, S 53, B 6, T&P sur, 300 ft from n and 220 ft from w line. Donley & Chastain & Conway Bros., Ranger, J. R. Coody, 160, 1, S 48, B 5, T&P sur, 750 ft from n and 2640 ft from e line.

TAYLOR COUNTY — Eastland Oil Co., Fort Worth, A. W. Hunter, 160, 2, No. 122 W. Willis sur, ne cor of Blk. 16.

THROCKMORTON COUNTY—States Oil Corp., Eastland, J. B. Davidson, 380, 1, S 1685, TE&L sur, 650 ft from n and 500 ft from e line.

TRAVIS COUNTY — Sun Oil Co., Beaumont, J. F. Nagle, 140, 1, L. Kibro sur, 651 ft from se and 450 ft from sw line.

UPSHUR COUNTY—McGinley Corp., Fort Worth, Reeves, 47, 1, L. B. Brown sur, 507 ft from s and e lines.

UPTON COUNTY — Gulf Prod. Co., Fort Worth, J. T. McElroy, 619, 89, S 200, B. F, sur, 330 ft from e and 2388 ft from s li sec. J. T. McElroy, 609, 88, S 201, Blk F, 1650 ft from e and 2307 ft from s li sec.

VAN ZANDT COUNTY — Pure Oil Co., Fort Worth, H. C. Gilbert, 62, 1, M. Gross sur, 250 ft from n and e lines; A. D. Clark, 2, 1, J. Walling sur, 203 ft from n and 110 ft from e line; A. W. Ellison, 67, 2, Jas. Rose sur, 225 ft from e and 200 ft from s line; J. T. Taylor, 43, 2, J. Walling sur, 150 ft from n and 202 ft from e line.

WICHITA COUNTY — Premier O&G Co., Pampa, W. H. Penix, 80, 1, S 22, H&GN sur, 1750 ft from n and 1800 ft from e li sec. Corrected location, C. C. Julian Oil & Royalties Co., Wichita Falls, W. W. Overby, 86 9, S 86, J. M. Sharp sur, 300 ft w of No. 3. W. C. Forbess, Fort Worth, M. M. Maywood, 148, 11, B 195, Wag. Col. sur, 278 ft from e and 200 ft from s line. Jno. L. Swann, Wichita Falls, Williams-Parker, 160, 2, PCSL sur, 760 ft from w and 995 ft from s li Blk 15. Walton, Blair & Schlaffke, Electra, W. B. Honaker, 20, 5, B 1, C&M sur, 450 ft from n and 750 ft from e li sec.

WASHINGTON COUNTY—Sun Oil Co., Beaumont, J. Grote, 39, 3, J. F. Perry sur, 300 ft from nw and 203 ft from sw line.

WILLIAMSON COUNTY—E. L. Chapman et al, Fort Worth, T. P. Simmons, B, 16, 1, S. Miller sur, 150 ft from n and 439 ft from e line.

WHARTON COUNTY—Ferdinand Heine, Jacksonville, B. M. Floyd, 9, A6, S. F. Austin sur, 400 ft from e and 525 ft from s line.

YOUNG COUNTY—R. R. Stastney et al, Graham, S. Eichelberger, 77, 1, S 1449, TE&L sur, 1550 ft from e and 1470 ft from s li sec. Petroleum Prod. Co., Wichita Falls, C. Graham, 48, 4, S 2249, TE&L sur, 150 ft from n and 450 ft from e line. Martin & Maer, Wichita Falls, W. R. Smedley, 51, 1, No. 26, TE&L sur, 200 ft from w and 150 ft from s line; A. E. Foster, 160, 1, 731 TE&L sur, 150 ft from n and w lines ne¼ of se¼. Texas Co., Wichita Falls, J. K. Jeffery, B, 120, 1, 42 TE&L sur, 150 ft from e and 450 ft from s li nw¼. Wooten & Reed et al, Graham, M. E. McBrayer, 20, 4, 1907 TE&L sur, 1350 ft from s and 150 ft from e li sec. King Royalty Co., Wichita Falls, C. & J. Graham, 40, 6, 1082 TE&L sur, 1160 ft from e and 429 ft from n line of sec. H. R. Stastney et al, Graham, S. Eichelberger, 40, 1, 1453 TE&L sur, 1170 ft from s and e lines of sec; S. Eichelberger, 85, 1, 1448 TE&L sur, 150 ft from e and 2220 ft from s line of sec; S. Eichelberger, 40, 1, 1470 TE&L sur, 1470 ft from n and 1170 ft from w line sec. Belknap Coal Co., Wichita Falls, Fee 53, 1, 22 TE&L sur, 1350 ft from w and 150 ft from s line. Geo. L. Pace, Wichita Falls, F. C. Green, 160, 2, J. Levine sur, 150 ft from n and 2037 ft from w line. A. H. Schmidt, Fort Worth, Belknap, 40, 1, 22 TE&L sur, 150 ft from s and w lines. J. F. Baker et al, Breckenridge, S. R. Donnell, 76, 1B, G. Bellah sur, 500 ft from w and 150 ft from n line. C. Hightower et al, Mineral Wells, R. F. Wells, 80, 1, 729 TE&L sur, 150 ft from n and e lines of sec. A. C. Hill, Wichita Falls, S. M. J. Benson, 50, 1, 1477 TE&L sur, 150 ft from s and e lines of sec. Beaver & Shaw Oil Co., Wichita Falls, T. J. Routon, 40, 2, 22 TE&L sur, 150 ft from n and 450 ft from e line; 3, 300 ft w of No. 2. Sheldon & Shaw Oil Co., Wichita Falls, T. J. Routon, 40, 2, 22 TE&L sur, 150 ft from n and 450 ft from w line. Bridwell Oil Co., Wichita Falls, J. M. Bloodworth, A, 80, 1, 326 TE&L sur, 150 ft from w and 450 ft from n li sec. Stafford & Williams, Graham, S. White, 60, 1, 258 TE&L sur, 150 ft from s and e lines. King Royalty Co., Perkins, Wichita Falls, S. M. Kirkland, 29, 2, 2249 TE&L sur, 150 ft from n and 450 ft from

e line. A. B. Bissey, Albany, J. L. Woolfork, 46, 1, 13 TE&L sur, 150 ft from n and 1600 ft from e line. Floyd Ard, Jr., Wichita Falls, Jeffery, 40, 1, 45 TE&L sur, 150 ft from n and 450 ft from w line. J. F. West et al, Olney, H. C. McBrayer, 40, 1, 1907 TE&L sur, 750 ft from n and 150 ft from s line. P. F. Gwynn et al, Wichita Falls, J. K. Jeffery, 60, 2, 42 TE&L sur, 450 ft from s and 150 ft from w line. E. D. Willis et al, Jean, T. J. Rater, 40, 2, 22 TE&L sur, 150 ft from s and e lines. Victor Swanson et al, Olney, M. E. Owens, 160, 1, 790 TE&L sur, 150 ft e of center of w line of sec. G. A. Alexander, Jr., Wichita Falls, S. R. Jeffery, 80, 2A, 41 TE&L sur, 150 ft from s and w lines of ne¼. F. J. Hart, Fort Worth, V. A. Watson, 40, 1, Por. 28, I&GN sur, 150 ft from e and 450 ft from s line. E. E. Riggs, Graham, B. P. Larimore, 40, 16, 2247 TE&L sur, 758 ft from w and 517 ft from s li sec. Seitz, Comegys & Seitz, Inc., Wichita Falls, W. T. Finch, 20, 2, 31 TE&L sur, 783 ft from n and 459 ft from e line of sec. Glover & Wall, Vernon, C. W. Johnston, 40, 7, Blk. 11, E. W. Sargent sur, 150 ft from n and 750 ft from e line. Texas Co., Wichita Falls, N. Finch, B, 120, 1, 40 TE&L sur, 150 ft from s and e lines; N. Finch, A, 440, 2, 40 TE&L sur, 150 ft from s and e lines; L. Lunn, 160, 1, 186 TE&L sur, 1650 ft from n and 1932 ft from e line of sec. R. J. Watson et al, Newcastle, A. C. Watson, 30, 1, 249 TE&L sur, 1314 ft from w and 1701 ft from s li sec. Panhandle Ref. Co., Wichita Falls, B. H. Larimore, 40, 6, 2247 TE&L sur, 300 ft s of No. 3. C. E. Blavers, Wichita Falls, C. F. Newman, 33, 1, S. Sallee sur, 150 ft n of center of s line.

ZAPATA COUNTY—O. W. Killam, Laredo, E. Cuellar, 431, 33B, Sec. 277, 1330 ft from w and 150 ft from s line of sec; 32B, 350 ft nw of No. 26. R. Lopez, 40, 1, S 251, GC&SF sur, 181 ft from w and 150 ft from s li of Blk. 16. Pal Mar Oil Co., Laredo, J. Bustamente, 31, 1, No. 35 Fansler sur, 150 ft from n and w lines. S. R. & C. Oil Corp., San Antonio, G. T. Montemayor, 40, D2, Sec. 64, 150 ft from s and w lines of Blk. 8; E. Trevino, 46, B 12, Sec. 65, Blk. 13, 380 ft w of No. B6.

OKLAHOMA

BECKHAM COUNTY—Producers Exploration Co., Pederson 1, ne c sw 23-9n-23w, (owdd). Mid-Tex Oil Co., Deidel 1, (owdd) se sw sw 17-9n-22w.

CADDO COUNTY—Mid-Kansas O&G and Ramsey Pet., Rowe 1, sw c nw ne 36-6n-10w (owdd).

CARTER COUNTY—Geo. Pace, Mitchell 2, sw nw nw 30-1s-2w. Carter Oil Co. et al, Hooks 1, nw se ne, 24-1s-3w. Anderson, Eaves 7, sw ne sw 24-1s-3w. Trevelyn Oil Co., Hooks 1, nw sw se 13-1s-3w.

CHEROKEE COUNTY—Weaver and Proctor, Benge 1, (owdd) sw c ne ne nw 8-14-21e.

CREEK COUNTY—Hartman, Wright et al, McKellop 1, cel ne nw 26-17-10e. Sidwell Drlg. Co., Fee 1, nw c se ne 12-18-8e. O. M. Irelan, Bible 1, ne nw sw 20-19-9e. Sample, Mann et al, Saab 2, sw c 17-19-9e. Imo Oil Co. et al, Conrod 1, ne c sw se 4-19-9e.

GRADY COUNTY — Badgett and Cooper, Berry 1, c nw nw 25-4n-8w.

HASKELL COUNTY—A. W. Ault et al, Hall 1, nw c sw se 14-9n-19e.

KAY COUNTY—Blankenship Pet. Co., Hollenbeck 1, se ne se 18-27-2e.

McINTOSH COUNTY—Brown et al, Extes 1, se c ne nw nw 35-11-15e.

MUSKOGEE COUNTY — Singer P. & S. Co., Charles 2, (owdd) sw c ne sw 6-15-15e. Western Devel. & Elec Co., Bailey 1, nw c sw se 11-15-17e. Western Devel. & Elec. Co., Fields 4, ne c sw 9-15-18e. H. Smith, Pouncil 9, se c nw se ne 25-15-15e. J. R. Parks, Lewis 1, cel nw se se 15-15-18e.

OKLAHOMA COUNTY — Phillips Pet., Crean 1, sw c se se se ne 3-11-3w. Mabee Drlg. Co. et al, Mills 1, se c ne nw 10-11-3w. Phillips Pet. Co., Robb 1, se c ne sw ne sw 10-11-3w. Phillips Pet. Co., Henderson 1, sw c nw nw ne 10-11-3w. Slick, Frisco 2, sw c se ne ne se 3-11-3w. I. T. I. O., View Point 4, sw c se 10-11-3w. Tom Slick Oil Co., Central 1, csl se ne se 3-11-3w.

OKMULGEE COUNTY—Clarmont Oil Co., Replogle 3, cwl nw ne 12-15-12e. Speary Bros., Simmons 1, nw c ne nw nw 29-15-12e. W. C. Newman, Brunton 1a, se c ne nw 14-14-13e. Keithly and Smith, Harris 6, csl ne se 1-14-14e. Whitcomb et al, Harris 2, sw c ne ne 1-14-14e. Eagle Pitcher Lead & Zinc Co., Sullivan 2, e nw se 8-12-12e.

OSAGE COUNTY—Link Oil Co., 2 "A", nw ne ne 33-35-9e.

PAWNEE COUNTY — W. A. Rookstool, Berry 1, nw ne sw 6-20-5e. Glass et al, McCollum 2, nw se nw 14-20-9e.

SEMINOLE COUNTY — Pace Pet. Co., Townlot 1, sw se ne 30-8-8e. Gypsy Oil, Denmark 5, se sw se 11-7-6e.

STEPHENS COUNTY—Pace et al, Green 1 "B", nw c se ne 2-2s-8w. Pace et al, Dilley 4, nw c ne nw sw 27-2s-7w.

TULSA COUNTY—Holmes, Burton et al, Hawknis 1, nw c sw nw 29-19-10e. Owens et al, Warner 1, nw c se sw 33-18-14e.

WAGONER COUNTY—J. A. Murphy et al, Simmons 1, ne c nw 34-18-15e. A. H. Secrist, Barnett 2, sw c se nw 34-17-16e. Wm. LaPierre, Scott 1, nw c ne 3-16-16e.

WASHITA COUNTY — Snodgrass et al, Blocker 1, nw c 29-8-19w. Burns and Prince, Dock 1, nw c 21-8n-18w.

KANSAS

BARBER COUNTY—Barbara Oil Co., Lytle 2, cel w2 w2 sw 12-33-13w.

COFFEY COUNTY—Roberts et al, Hay 1, (owdd) sw se nw 32-22-15e.

GREENWOOD COUNTY — Smith et al, Hess 1, nw sw ne 34-22-11e. Patterson et al, Sterling 1, sw c se 25-22-11e. Empire O&R and Rhodes, Braddock 1, sw c nw 23-22-12e. Aladdin Pet. Co. and Phillips Pet. Co., Harris 3, nw ne sw 19-22-11e.

HARVEY COUNTY—Jones and Shell Pet. Corp., Lehmann 1, c nw nw 36-22-2w.

MARION COUNTY—Youker et al, Riffel 3, se c 10-17-4e.

McPHERSON COUNTY—Shell Pet. Corp., Anderson 1, se c nw 30-19-1w. Jones and Shell Pet. Corp., Holmes 1, ne se nw 12-20-2w. Washoma Pet. Co. and Shell, Meeks 1, nw ne sw 7-20-1w. Jones and Shell, Peterson 1, nw sw sw 7-20-1w. W. C. McBride, Inc., Giffin 1, c ne sw 14-19-2w.

MORTON COUNTY—Missouri Kansas Pipe Line Company, Phillips 1, c se 16-35-39w.

STEVENS COUNTY — Sidwell et al, Jenkins 1, c sw 10-34-39w.

CALIFORNIA

BELRIDGE—Reward Oil Co., 4, 34-27-20.

DOMINGUEZ — Associated Oil Co., De-Frances 12, 34-3-13.

ELWOOD—Barnsdall Oil Co., 88-7, 15-4-29.

KERN RIVER—General Pet. Corp., Sill 8, 26-28-27.

KETTLEMAN HILLS—North American Oil Cons., Blauvelt 1, 36-21-17.

LONG BEACH—Dixie Canden Oil Co. 1, 19-4-12.

LOMPOC—Vaqueros Major Oil Co. 3, 6-7-33.

PLAYA DEL REY—A. T. Jergins Trust, Troxel 1, 28-2-15. Walter M. Crawford 2, 21-2-15. Toy Rebhausen Co. 2, 28-2-15. Rich Pet. Co., Swart 1, 28-2-15. George Wolfe 5, 28-2-15.

SAN LUIS OBISPO COUNTY — Miracle Pet. Corp. 1, lot 53-10-24.

VENTURA—Shell Oil Co., Taylor 66, 29-3-23.

LOUISIANA

ASSUMPTION PARISH—Gulf Refg. Co. of La., Plaquemines, Dugas & LeBlanc 3, 41-12s-13e, 1530 ft s and 1530 ft e of nw cor of sec. Gulf Refg. Co. of La., Plaquemines, P. Aucoin et al 1, 45-12s-13e, 2465 ft w and 800 ft s of ne cor of sec.

CADDO PARISH—Bayou State Oil Corp. Shreveport, Barr 5, 30-22n-15w, 75 ft n and 75 ft e of sw cor se¼ of sw¼.

CALCASIEU PARISH — Vacuum Oil Co., Houston, Farquhar 8, 8-10s-9w, 190 ft e and 850 ft s of nw cor ne¼ of se¼.

CAMERON PARISH—Shell Pet. Corp., St. Louis, Mrs. J. B. Watkins 16, 18-12s-12w, 1590 ft w and 1610 ft s of ne cor of sec.

OUACHITA PARISH — Bahan & Bahan, Shreveport, Fabolio 1, 35-19n-3e, 660 ft s and 660 ft w of ne cor of sec.

NATCHITOCHES PARISH — Gulf Refg. Co. of La., Shreveport, Bodcaw Lbr. Co. et al 1, 13-13n-8w, 1910 ft s and 605 ft w of ne cor of sec.

SABINE PARISH — Mr. Frank Melat, Shreveport, Sabine Lbr. Co. 2, 14-7n-12w, 330 ft s and 330 ft w of ne cor ne¼ of nw¼. Pelican Nat. Gas Inc., Shreveport, Sabine State Bk. 6, 11-7n-12w, 300 ft s and 300 ft e of nw cor ne¼ of ne¼.

UNION PARISH—Bahan & Bahan, Shreveport, Barr 1, 16-20n-4e, 233 ft s and 833 ft e of nw cor of sec. La. Gas & Fuel Co., Houston, W. J. Hollis 1, 10-21n-3e, 6625 ft e and 412.5 ft n of center of sec.

COMPLETIONS

(Continued from page 96))

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
VAN ZANDT COUNTY—		
Pure Oil Co., A. D. Clark (42-ac) 1	6000	2931
Mertie Elliott 1	200	2933
I. W. Thompson (95-ac) 1	*	3313
Imperator Oil Corp. & Paul Vitek, Luther (strip lse.) 1	*	3025
Kraft & Kelsey et al, Wylie Enas (strip lse.) 1	*	3003
The Texas Co., R. A. Tunnell (100-ac) 3	500	2946

TEXAS PANHANDLE

GRAY COUNTY—		
Cockrell-McIlroy Oil Co., Castlebury 4	190	3278
Gulf Prod. Co., R. B. Thompson 3	208	3274
Kewanee O&G Co., Arnold 3	275	3257
Operators Roy. & Prod. Co., Arnold 1	240	3240
Harrah 6	500	3210
Skelly Oil Co., Vicars 2	500	3261
HUTCHINSON COUNTY—		
Phillips Pet. Co., Pease-Childress 1-A	35	3100
LIPSCOMB COUNTY—		
Brown et al, Box "T" Ranch 1	*	4142
POTTER COUNTY—		
Canadian River Gas Co., T. L. McBride 1-A,	¶40	2175

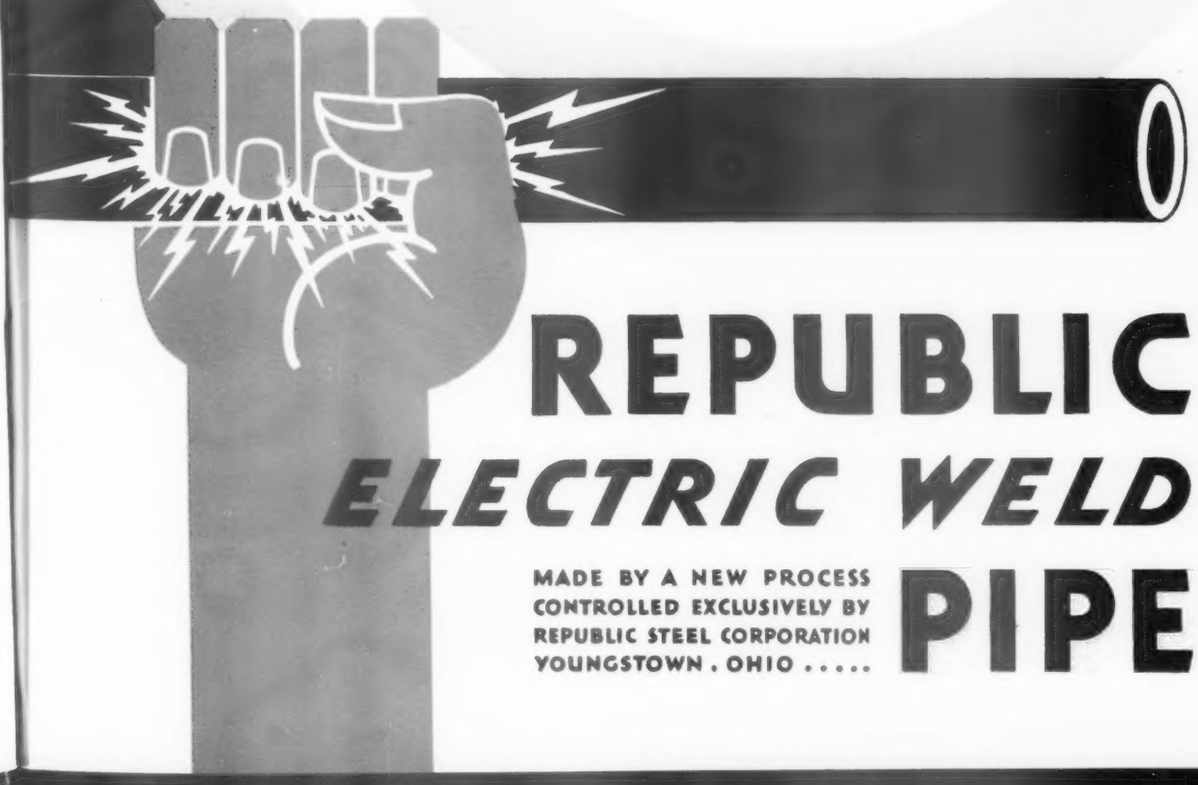
NEW MEXICO

LEA COUNTY—		
Continental Oil Co.-The California Co., Bill Meyer 1	*	4318
Empire Gas & Fuel Co., Fowler 3	5994	4212
Shell Pet. Corp., Nora Berry 2	¶134-2171	4210
H. D. McKinley 8-A	¶8¼-12,960	4210
Skelly Oil Co., Fowler 2	¶3-3758	4215

Among the several changes being made in the personnel of Midwest Refining Company's legal staff recently it is announced that Clay Tallan has been sent from Denver to Tulsa to become general counsel for Stanolind Crude Oil Purchasing Company, that Leslie A. Thompson, Jr., has been sent from here to the same company as general attorney. J. B. Barnes, Jr., general attorney in the operating department, Casper, is to be general attorney in the Denver offices, where his brother, A. K. Barnes, is now general attorney.

William Piez, European representative of Link-Belt Company, and a brother of Charles Piez, chairman of the Ling-Belt Company board of directors, died at Brussels, Belgium, November 2, following a week's illness. Prior to his association with this company he was district manager of the Concrete Steel Company, Chicago. Since 1928 he has lived in Paris. He was born at Newark, New Jersey, in 1878.

IT'S ROUND .. ALL 'ROUND
INSIDE AND OUTSIDE
TOO . . .



REPUBLIC
ELECTRIC WELD
PIPE

MADE BY A NEW PROCESS
CONTROLLED EXCLUSIVELY BY
REPUBLIC STEEL CORPORATION
YOUNGSTOWN . OHIO . . . . .

IT
MUST BE ROUND TO BE MECHANICALLY PERFECT

THE WELD
Guaranteed 100%.
Stronger than the parent metal.
No foreign metal added.
Perfectly smooth, inside and outside.

THE PIPE
Uniform wall thickness.
Perfectly round, inside and outside.
Scale and oxide removed, inside and outside.
Easy to weld and bend.
Lengths up to 50 feet.
Sizes, 4 to 16 inch.

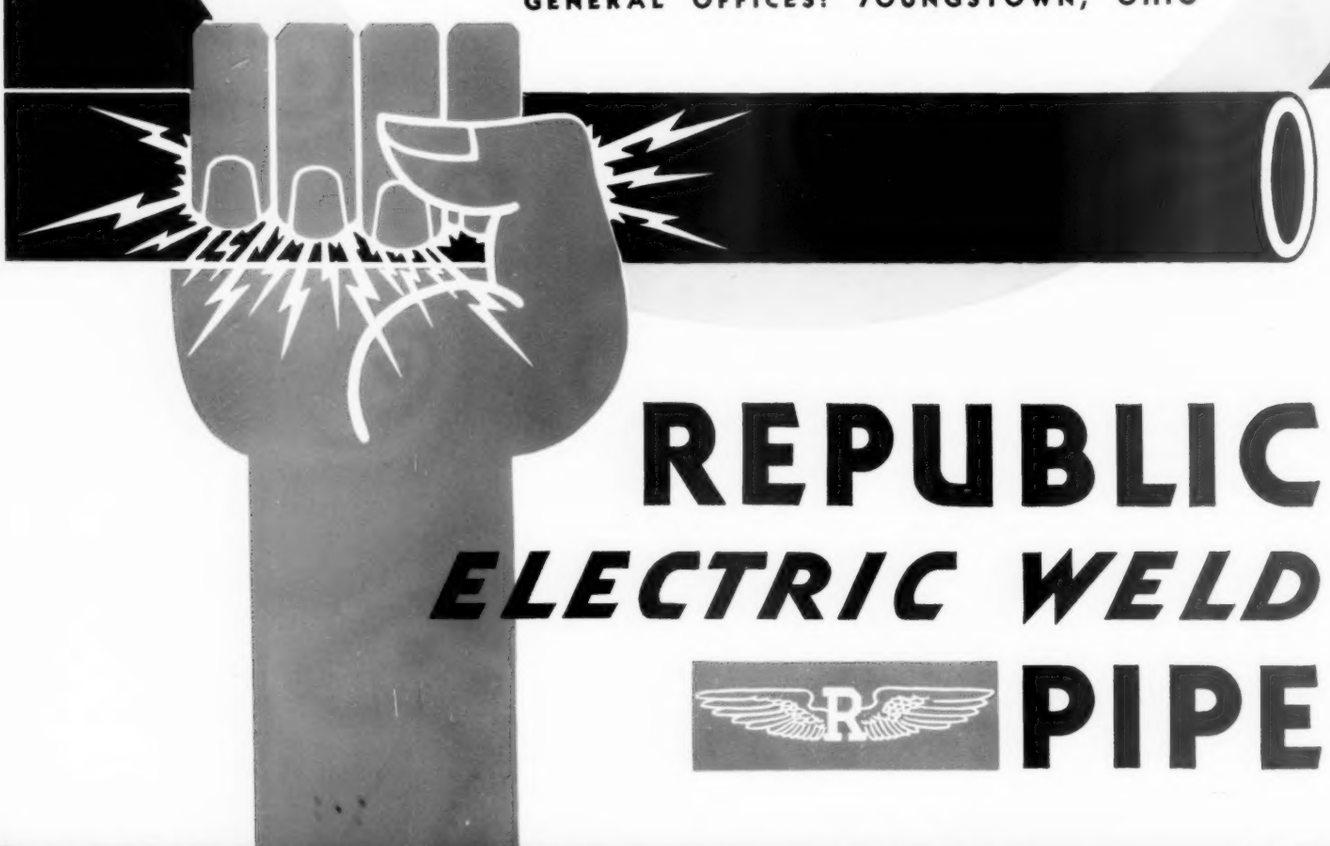
PLANT CAPACITY
30 to 40 miles of pipe per day.

Every time quantities of pipe must be threaded—every time a gang is put to laying a line of pipe—every time a welder runs up against joints that won't butt—somebody says "Why doesn't someone make pipe that's round."

It's here—Republic Electric Weld Pipe. Not only round outside and exact to size, but also of uniform thickness, and thus round inside and of uniform bore. Briefly, its round all 'round, inside and outside, too,—it is truly a mechanically perfect pipe.

REPUBLIC STEEL CORPORATION

GENERAL OFFICES: YOUNGSTOWN, OHIO



REPUBLIC
ELECTRIC WELD
PIPE

WILDCATS FROM ALL SECTIONS

MOUNTAIN STATES

MONTANA

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, dr 600 ft.

FERGUS—Northern States Oil Co., (Book et al) Woodward 1, se 20-14n-24e, ur to lower 10-in td 1000 ft.

GLACIER—Glacier Oil Co. Omsberg 1, nw 33-35-5w, sd 2785 ft. Texas Prod. Co.'s 1, 13-35n-6w, cem, td 2836 ft. Fulton Corp.'s Blackfeet 1, ne 28-36n-12w, install. Diesel, td 850 ft. Hill-O'Neil's Michaels 1, se 28-36-5w, dr 2200 ft. B.&H Oil Co.'s Haines 1, se 2-34-6w, dr 1300 ft. Jeffries-Hoerr, Dawson 1, ne 7-31-12w, dr bel 2800 ft.

GOLDEN VALLEY—Texas Pacific's 1, sw 21-8s-21e, shutt off water 1540 ft.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, sd 3475 ft. Sunburst, McLaren 1, se 9-37-6e, sd 3115 ft. Utopia Oil Co.'s Ealeanor Ass'n 1, sw 11-33-6e, td 3190 ft. Perkins et al's Brown 1, nw 24-35-4e, fsg. West Nat'l Gas Co.'s 1, ne 23-37-4e, dr 2065 ft.

POWDER RIVER—Creel et al, 7-8s-50e, set cas 1020 ft.

ROSEBUD—Prairie O&G Co.'s 1-X, 26-10-39e, dr bel 1825 ft. Prairie O&G Co.'s 1, Contract 4, 28-10-38, dr 740 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, ready to resume at 200 ft.

TOOLE—Liquid Gold Oil Co.'s Roberts 1, ne 25-36-12, dr 150 ft, water etll.

WYOMING

BIG HORN—Westland Oil, Inc. 1, 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pet. Co.'s 1, 7-57-97, td 4080 ft.

CARBON—Producers O&G Co., Blivens 1, 32-12-92, ¶5 at 700 ft. Midwest's U. P. 27, 11-20-81, run cas 695 ft.

CONVERSE—Converse O&G Co., 27-33-72, sd 2000 ft. Pioneer Oil Co., 5-31-70, prep to res at 3300 ft.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, to sidetr 304 ft 6⅝-in cas in the hole, td 4483 ft. P&R 1, 33-34-92, ream 4718 ft, td 4730 ft. Yellowstone Oil Co.'s 1, 15-39-92, td 185 ft.

HOT SPRINGS—Midwest Ref. Co.'s Weeks 8, 6-44-98, fsg tools 4490 ft.

LINCOLN—Mountain Oil Corp.'s 1, 36-25-116, ur to set 13 ⅜-in 1112 ft.

NATRONA—Summit Oil Co., nw 21-33n-80w, td 600 ft. Golden West Oil Co. 1, 36-36-81, sd 1115 ft for the winter. Midwest 11, nw 32-34n-77w, cem 263 ft, rig rotary.

NIOBRARA—West Virginia syndicate, ne 7-35-62, td 978 ft.

PARK—Resolute Oil Co., 17-27-101, td 8020 ft, last report.

SWEETWATER—Vermillion Oil Co. 1, se 16-12-99, dr bel 3175 ft.

UINTA—Park City O&G Co., nw 6-15-113, set 6¼-in at 2150 ft.

NEW MEXICO

DeBACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, dr 3052 ft.

LEA—Hobbs High Co.'s State 1, 35-18s-38e, abd 4355 ft.

LUNA—Angelus Oil Mining Ass'n, se 20-21s-10w, dr 5900 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, sd 3255 ft. Wms et al's A.T.S.F. 1, sw 19-18n-8w, dr 1900 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, dr 1146 ft.

QUAY—Silverstein et al's Wetzel 1, 29-12n-33e, stand 85 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet Co.'s Gov't 1, se 14-30n-7w, sd 250 ft. Governador Oil Co. 1, se 15-29n-7w, dr 710 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, prep to re 1750. Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, gas at 2018 ft. Childers Dr & Pr Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, dr 3640 ft. Murchison Oil Co.'s Angles Peak 4, se 11-28-11, dr 1925 ft. J. B. Witt O&G Co.'s Mangum 1, se 33-29n-11w, mvg in.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, 14-15n-16e, wait 2366 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, dr 3372 ft. Cibola Pet Co.'s Crown 1, se 9-13n-14e, dr 732 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 2-12n-22e, wtg for cas 1200 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stand 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17s-7e, sd 1219 ft.

VALENCIA — Acme Oil Co.'s N.M.-Ariz. Land Co.'s 1, 26-6-3, co 4690 ft. Harlan et al's Harlan 1-A, 5-6n-2e, dr 3775 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc,. used in completion and wildcat repports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wc—workover; wosr—waiting on standard rig.

COLORADO

ADAMS—N. M. Slatt's Hills 1, se 27-26-64w, 10-in at 2500 ft.

ARAPAHOE—McDebb Dr. Co.'s Fitzsimmons 1, 7-45-55, co 5692 ft. Merrett et al, U. P. 1, nw 17-5s-64w, stand 1600 ft.

ARCHULETA—Stand. of Colo.'s Fitzhugh 1, se 34-33n-1e, stand 520 ft. Stand. of Colo's Crowley 1, 10-32-2, dr 445 ft.

BACA—A. R. Johes Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 4012 ft.

ELBERT—Belmont Oil Co.'s Maher 1, sw 4-6s-59w, prep to res 3720 ft.

EL PASO—Utemore Synd.'s Cannon 1, ne 10-16s-66w, stand 1100 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr 3765 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 300 ft.

LA PLATA—McGarr Pet. Co.'s Mesa 1, ne 27-33n-12w, will shoot show 3300 ft. Klem Pet Corp.'s Olbert 1, se 9-25n-12w, dr 2760 ft. McGarr Pet. Co.'s Pionon Mesa 1, ne 34-33n-12w, prep to spud. Murchison Oil Co.'s Doescher 1, nw 9-33n-13w, dr 1430 ft.

LINCOLN—Kelly Oil Co.'s State 1, 26-14n-57w, stand 3415 ft.

MOFFAT—Vermillion O&G Synd's 1, se 23-9n-100w, stand 750 ft. Mtn Fuel Supply's State 2, tract 37-12-100, dr 1000 ft. S. H. Keoughan et al's State 1, se 15-4n-101w, sd for winter 2950 ft

MONTEZUMA—Haller et al's Haller 3, ne 33-36-14w, prep to deepen from 764 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 3700 ft.

PUEBLO—Kuykendall Oil Corp.'s Boescher 1, 7-22-66, contr compl at 1000 ft. Anchor Oil Co.'s Eseley 1, sw 35-22s-67w, dr 260 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, dr 1600 ft. So. Park O&G Co.'s Esche 1, ne 5-9s-76w, runn 10-in.

ROUTT—Gorham et al's Omholt 1, 29-4n-87w, ready to spud.

WELD—Platte Valley Pet Corp.'s Patterson 1, nw 24-6n-61w, prep to dd 6666 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, sd 165 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, dr 1535 ft.

CENTRAL EAST TEXAS

ANDERSON COUNTY — Frost Oil Co.'s Botting 1, A. B. Patton sur, dk. Humble O&R Co.'s J. W. McCaffrey 1, Blackfoot block, I&GN Ry. sur A-418, elev 365 ft, first broken Pecan chalk 2875 ft and hard chalk 2938 to 3163 ft, dr shale 3276 ft.

BOWIE COUNTY—Joe Burnham et al's G. W. Burnett 1, M. H. Janes sur, top Annona chalk 1430 ft, top chalk 2906 ft, sd in red beds 3130 ft. Maud Redwater Oil Co.'s Merritt 1, Y. S. McKinney sur, cem 10-inch cas 82 ft.

CAMP COUNTY—McDonald Bros.-Atlantic Oil Prod. Co. et al's B. D. Tillery 1, J. H. Murphy sur, elev 440 ft, Pecan chalk 2410-2535 ft, sd in shale 4158 ft.

CASS COUNTY—Wesley Mrose et al's Henderson 1, C. C. Bailey sur, dk. Phillips Pet. Co.'s J. R. Olds 1, J. A. Stephenson sur, elev 245 ft, top Saratoga 1935 ft, dr 1955 ft. John C. Rogers et al's Lanier 1, K. A. Welborn sur, elev 366 ft, top Annona chalk 2144 ft, cored shale 2193-2210 ft. The Texas Co.'s Citizens State Bank 1, Jos. Watkins sur, elev 339 ft, top Saratoga 2260 ft, top Annona chalk 2363 ft, dr chalk 2855 ft.

CHEROKEE COUNTY—Arkansas Fuel Oil Co.'s N. A. Deaton 1, F. Coleman sur, elev 368 ft, top Pecan chalk 3493 ft, dr chalk 3960 ft. Buder et al's (was Berry & Hale's) Jones 1, dk. D. H. Byrd et al's W. H. Felder 1, Brooks Williams sur, heavy flow water 385-560 ft, sd 603 ft.

DELTA COUNTY — The Delta Co. (was Geo. Kean & J. B. Evans') Mrs. Neatherley-Hays 1, J. B. Anderson sur, elev 503 ft, tested salt water 3081 ft. D. S. Hoad et al's J. J. Baker 1, T. P. Eddin sur, dr 380 ft. Worthington & Stedham's W. H. Dejernett 1, E. Chick sur, spd and sd.

ELLIS COUNTY—G. C. Foster & S. C. Richardson's Moise-Cerf 1, La Pena sur, elev 440 ft, sd 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, sd 1325 ft. The Triangle Corp.'s W. B. Hale 1, B. Smith sur, sd 3178 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, showing gas with water, reaming to set 6⅝ cas 3435 ft.

FRANKLIN COUNTY—Harper-Byers Oil Co.s A. J. Laws 1, D. G. Rogers sur, dr 1690 ft.

GREGG COUNTY—W. A. Moncrief-J. E. Farell & Arkansas Fuel Oil Co.'s F. K. Lathrop 1, Wm. Robinson sur, rig. W. T. Daniel & Mrs. Mamie Hammonds' Hamby 1, John Lout sur, elev 376 ft, top Saratoga chalk 2361 ft, sd in chalk 2590 ft.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, Pecan chalk 2810-3015 ft, co 3230 ft. E. L. Chapman et al's Cade 3, J. B. Dorsey sur, heavy rotary rig. Texas-State Oil Co.-R. H. Dearing & Sons et al's T. H. Skinner (20-ac) 1, J. Hinshaw sur, elev 453 ft, Pecan chalk 2500-2603 ft, top broken Austin chalk 3559 ft, top hard chalk 3570 ft, dr chalk 3800 ft.

LIMESTONE COUNTY — Imperator Oil Corp. et al's B. B. Barron 1, Evans Mabry sur, lcn.

NAVARRO COUNTY—L. G. Priest et al's H. Albritton 1, H&TC Ry. sur, dr 2500 ft.

RED RIVER COUNTY—Buffington et al's L. H. Moore (100-ac) 1, D. Cornelius sur, rig. E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 1505 ft. Droppleman & Bundy's J. W. Cunningham (180-ac) 1, S. V. Shi sur, lcn. Johnson Pet. Co.'s Style 1, Dean sur, sd 2124 ft. Lloyd Oil Corp.'s R. H. Mace 1, Wm. Cullum sur, dr 1200 ft.

RUSK COUNTY—J. Alford et al's W. L. Wallas-Trash 1, R. H. Pinney sur, dk. Dan Auld et al's W. H. Worrell 1, dk. Arkansas Fuel Oil Co.'s J. A. Worrell (38-ac) 1, elev 412 ft, Pecan chalk 2490-2915 ft, top Austin chalk 3439 ft, tested dry hole at 3600 ft, top Georgetown lime 3640 ft, dr 3690 ft. P. A. Bailey et al's Thrash 1, F. Cordova sur, sd 201 ft. Ed. W. Bateman et al's L. D. Crim 1, E. Sevier sur A-697, elev 440 ft, dr 1693 ft. Dan Dillon et al's W. H. Frederick (75-ac) 1, I. Parker sur, dk. E. L. Chapman et al's A. P. Finney (20-ac) 1, I. Parker sur A-623, dk and sd. Frank Files (O'Mara & Meredith's) Robertson (14-ac) 1, R. H. Pinney sur, dk. Frank Foster & Deep Rock Oil Co.'s C. D. Ashby (60-ac) 1, elev 429 ft, top hard chalk 2315 ft, fsh twisted off stem 2860 ft. H. L.

Hunt et al's Daisy Bradford (17-ac) 1, elev 391 ft, top Pecan chalk 2232 ft and first hard chalk 2500 ft, dr chalk 3447 ft. Kimbrough & Miller (now Anderson's) D. Bradford 1, elev 396 ft, dr hard chalk and lime 2710 ft. R. D. "Tex" Lloyd et al's Camp (5-ac) 1, elev 408 ft, sd 2430 ft. J. K. Lewis & Abe Goodman's Oscar C. Jones (15-ac) 1, Wm. Brown sur, rig. A. A. Malone et al's W. M. Camp (4-ac) 1, lcn. C. Rosenfield et al's E. L. Pinkston 1, M. V. Pena sur, elev 363 ft, sd 2015 ft. Lauren L. Smith et al's W. H. Worrell 1, Juan Ximinez sur, elev 424 ft, top broken Pecan chalk 2338 ft and hard chalk 2553-2925 ft, making drill stem test in hard lime 3680 ft. C. C. Stone et al's McCullough 1 and 2, lcns. Stroube & Stroube's W. H. Frederick 1, J. Ximinez sur, elev 415 ft, dr broken chalk 2900 ft. Wainwright-West Oils, Ltd.'s, Geo. Moore (7½-ac) 1, J. Ximinez sur, materials.

SMITH COUNTY—Owen-Sloan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, Pecan chalk 2738-3052 ft, dr 3465 ft. T. B. Slick Estate & J. G. Kugle, Jr.'s M. Freeman 1, A. J. Lagrone sur, elev 498 ft, top Pecan chalk 2955 ft, sd 3529 ft. Sun Oil Co.'s Oscar McGehee 1, Thomas Quevedo sur, elev 428 ft, dr 2310 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, dr 1900 ft.

TITUS COUNTY — Deep Rock Oil Co.'s Ed. L. McElroy 1, Kendall Lewis sur, elev 460 ft, dr 2035 ft.

UPSHUR COUNTY — McGinley Corp.'s Reeves-Truitt (47-ac) 1, L. B. Brown sur A-23, rig.

VAN ZANDT COUNTY—Bethel Oil Co.'s P. Smith 1, M. Neal sur, elev 435 ft, sd 4603 ft. J. C. Fore et al's P. Smith Hand 1, Wm. Sherman sur, sp and sd. Hartt Pet. Co.'s M. L. Cox 1, A. C. Nugent sur, sp and sd. T. W. Moore et al's (was Ward Powell), W. A. Kellam (52-ac) 1, Jessie Russell sur, elev 515 ft, top Pecan chalk 2782 ft, top Austin chalk 4032 ft, sd 4046 ft. Van Oil Assn.'s J. C. Tankersley 1, L. Landers sur, sp and sd. Neil McElroy et al's R. W. Murphy (159-ac) 1, H. Bailey sur, lcn.

VAN FIELD—Cranfill & Germany, Inc.'s L. L. Swain (5-ac strip) 1, sp and sd. Hartt Pet. Co.'s Swain (2.3-ac strip) 1, sp and sd. Helms et al's C. E. Bogue 1, M. University sur, elev 461 ft, sd 2212 ft. Humble O&R Co.'s R. S. Blake 5 and 6, rigs; A. J. Fowler 1, Pecan chalk 1815-2016 ft, Austin chalk 2276-2449 ft, cem cas on top Woodbine showing oil at 2529 ft; Sanger Bros. 2, lcn. Roy Jenkins et al's M. E. Davis 1, sd as small pumper, td 3031 ft. Kraft & Kelsey's Enas 1, dry and abn 3003 ft. Imperator & Paul Vitek's Luther (strip) 1, dry and abn 3025 ft. Pure Oil Co.'s Sam Allen 1, top Austin chalk 2511 ft, cem cas 2841 ft; R. E. Cade 1, top Austin chalk 2360 ft, dr 2900 ft; A. D. Clark (2-ac) 1, top Austin chalk 2328 ft, cem cas 2610 ft; A. D. Clark (42-ac) 2, cem cas 305 ft; N. E. Clark (89-ac) 4, rig; V. T. Davis 1, dk; A. W. Ellison 2, dr shale 2522 ft; H. C. Gilbert 1, dr 1725 ft; Mary P. Neills 2, dr chalk 2573 ft; Fletcher B. Smith 2, top Pecan chalk 1535 ft, dr 1595 ft; L. A. Smith (40-ac) 1, cem cas 2640 ft; G. C. Stewart (50-ac) 2, top Austin chalk 2325 ft, cem cas 2669 ft; O. L. Swain (80-ac) 2, cem cas 2292½ ft, td 2301 ft; W. F. Swain (40-ac) 2, made three bbls oil daily and shutin as gasser, td 2924 ft; Swain 3, cem cas 2706 ft; J. T. Taylor 2, dr 1692 ft; A. G. Tunnell (50-ac) 1, top Austin chalk 2545 ft, missed pay and making deep test, coring 3764 ft; E. B. Tunnell (4.23-ac) 3, top Austin chalk 2335 ft, cem cas 2593 ft; R. L. Wells 5, dk. Sun Oil Co.'s I. W. Thompson 3, dk. The Texas Co.'s R. A. Tunnell (100-ac) 2, swabbing for small well, td in red shale 2938 ft; Tunnell 4, dr 170 ft. Ventex Oil Co.'s L. A. Smith (2-ac strip) 1, dk.

WOOD COUNTY—Wood County Dev. Co.'s Hicks 1, Daniel Fuller sur, sd 1000 ft.

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ECTOR COUNTY—		
C. P. Davis et al, Hendrick 1	* 4850	

ANDREWS COUNTY—Deep Rock Oil Co. et al's Kuykendall 1, rig. Fuhrman Pet. Corp.'s W. T. Ford 1, elev 3186 ft, flowing 110 bbls oil daily 4290-4600 ft, td 4613 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

COCHRAN COUNTY — Continental Oil Co.'s Slaughter 2, lcn.

CONCHO COUNTY—Beesley et al's Waring 1, sp and sd. A. W. Turner-Cromwell & Wesner's Brosig 1, co 1520 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. et al's J. T. Muir 1, elev 2499 ft, top salt 485 ft, top white lime 2330 ft, dr 3744 ft. Cranfill & Gulf Prod. Co.'s J. B. Tubb 1, elev 2526 ft, salt 505 to 1400 ft, top brown lime 1415 ft, top white lime 2455 ft, making gas with spray oil 4303-4488 ft and fsh junk.

CROCKETT COUNTY—John W. Dieringer et al's G. Barnscrew 1, dr 110 ft. Magnolia Pet. Co.'s A. C. Hoover 2, sd 2056 ft. Taylor-Link Oil Co.'s Mary Bullock 1, dr 665 ft.

CULBERSON COUNTY — Grisham-Hunter Corp.'s W. D. Garren 2, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, sd 1055 ft.

DAWSON COUNTY—Ray A. Albaugh et al's John Robinson 1, rig.

ECTOR COUNTY — Southern Crude Oil Pur. Co.'s Cowden 2, rig. H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, fsh bit 3250 ft.

EDWARDS COUNTY—J. Dalgish et al's Peterson 1, elev 2345 ft, sd in sulphur water 4610 ft. Phillips Pet. Co.'s Holman 2, dr 6515 ft.

FISHER COUNTY — Condor Pet. Co. & Humble O&R Co.'s Wilson 1, elev 1879 ft, dr 1560 ft. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, sd 3090 ft. The Texas Co.'s Stephens 2-A, dr 1920 ft; M. Teagarden 2-B, dr 2285 ft.

GAINES COUNTY—Texas Consolidated Oil Co.-TP Coal & Oil Co.'s E. H. Jones 1, rig.

GLASSCOCK COUNTY—F-H-E- Oil Co.'s J. W. Meek 1, top salt 1120 ft, sd 1500 ft.

TOM GREEN COUNTY—Belding & Dutton's Norsworthy 1, sd 765 ft. Mintex Oil Co.'s Campbell 1, fsh cas 1835 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, dr up bailer 5000 ft. Pratt & Hancock's Lewis 2, machine.

HOWARD COUNTY—Greene Prod. Co. & Getty Pet. Corp.'s Denman 1, elev 2280 ft, top lime 1700 ft, co after shot, td 2826 ft; Snyder 1, elev 2314 ft, top lime 1790 ft, dr 2655 ft. McHinley-Sigler Co.'s Hyman 1-B, elev 2349 ft, dr 1660 ft.

HUDSPETH COUNTY—G. R. Theison et al's University 1, sp and sd.

IRION COUNTY—Central Oil Co. (W. E. Newton's) H. Horney 2, dr 955 ft. Carl Cromwell et al's Tankersley 1, elev 2520 ft, sd 1712 ft. Dixie Oil Co.'s W. H. Williams 1, lcn. Straughn & Texannati Oil Co.'s Tankersley 1, elev 2306 ft, sd 1440 ft. F. E. Webb (Brazelton) et al's Williams 1, elev 2363 ft, sp and sd. P. H. Willams et al's Noelke 1, dr 2590 ft.

JONES COUNTY—McBest et al's Roberts 1, sd 1000 ft. C. R. Pope et al's Swann 1, elev 1890 ft, top lime 2508 ft, swabbed 750 bbls 40 gravity oil in six day period from lime at 2534-39 ft. Union Oil Co. of Nevada et al's Hedrick 1, sp. Sam Yingling et al's Cade 1, sp.

LOVING COUNTY — Arkansas Fuel Oil Co.'s W. W. Dean 1, salt 775 to 4100 ft, top Delaware 4302 ft, flowed 205 bbls oil first 17 hrs after shot 160 qts at 4295-4339 ft, td 4341 ft. The California Co.'s Reagan-McIlvain 3, elev 2687 ft, top salt 726 ft, top Delaware 4201 ft, flowed 91 bbls oil, pb from 4238 to 4237 ft and pull 5½-in cas; Reagan 5, top salt 770 ft, dr 2560 ft; Reagan 6, dr 905 ft. A. R. Eppenauer Drlg. Co. et al's Allen 1-A, top salt 850 ft, dr 3440 ft. Henshaw et al's Reagan-McIlvain 2, rig. Lewis & Slagel Drlg. Co.'s Cartwright 1, spd and sd. Lockhart & Co.'s Allen 4, rig. Miller-Burge & Healy's Chapman 1, top salt 750 ft, sd 4190 ft. Phillips Pet. Co.'s Wheat 2, top salt 775 ft, dr 3405 ft. Rush-Anderson & Moor's Wheat 1, dk.

MENARD COUNTY—J. C. Barnett et al's Callan 3, elev 2077 ft, set cas on show gas 1814-14½ ft; Callan 4, lcn. L. G. Priest et al's J. P. Sorrells 1, elev 2279 ft, sd 2520 ft.

MIDLAND COUNTY—Kirwin et al's J. M. Mathena 1, top anhydrie 1550 ft, top salt 1610 ft, set 8¼ cas 2525 ft.

MITCHELL COUNTY — Lewis & Slagel Drlg. Co.'s A. M. Bell 1, elev 2278 ft, dr 1485 ft.

PECOS COUNTY—J. R. Bell et al's H. J. Eaton 1, lcn; Scharff-Blackman 1, top salt 940 ft, dr 1245 ft. Charlesworth-Messenger Oil Co.'s Butz 1, elev 2519 ft, sd 1105 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, sd 2210 ft. Cosby Prod. & Roy. Corp.'s Cordeva 1, elev 2320 ft, top salt 725 ft, top lime 1826 ft, sd hfw 3005 ft. C. L. Dittman Drlg. Co. et al's Eaton 2, lcn; Eaton (Sec. 37) 1, machine; Jackson 1, machine. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, fsh tools 6170 ft; Mrs. C. L. Thompson 1-B, elev 3061 ft, dr 3400 ft. McCarty Oil Co.'s Gray 3, dr 860 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, elev 2508 ft, sd 1230 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, fsh 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, top Delaware 4265 ft, top sand 4282 ft, dr black shale 4660 ft. Rio Grande Oil Co.'s Webb 1, dr with hfw 2235 ft. Riser & White's Riser 1, sd 405 ft. Schelling & Slaughter's Yates 1, sd 340 ft. Sides & Cloyd's Blackstone-Slaughter 1, dr 2710 ft. Southern Crude Oil Pur. Co.'s Scharff-Blackman 1, Nat'l machine. Williams & Moran's Heiner-State 1, dr 935 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 179, dr by 4 strings tools, td 4003 ft; University 5-C, dr lime and shale 7878 ft. Group One Oil Corp.'s (Conoco) University 4-B, dr shale 6040 ft. T. B. Slick Estate's A. August 1, dr 565 ft.

REEVES COUNTY—Biggs & Smith's Cherokee 1, spd and sd. The California Co.'s Kloh 1, elev 2798 ft, top black lime 4207 ft, top Delaware 4236 ft, pb from water at 4246 to 4242 ft and dry after shot. May & Milton's Ellis 1, sd 1465 ft.

RUNNELS COUNTY — Boyce & Lamar's

— — — — — — — — — CUT OUT AND MAIL — — — — — — — — —

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Lange 1, elev 1844 ft, sd 2643 ft. Chas. Dutton et al's G. W. Dean 1, fsh 1695 ft.

SCHLEICHER COUNTY—Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr with hfw 5595 ft. Eastland Oil Co. Unit Plan's Tisdale 1, lcn. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, elev 2311 ft. J. D. Wesner et al's R. E. Ratliff 1, sd 750 ft.

SCURRY COUNTY — Camp Springs O&R Co.'s Strayhorn 1, sd 875 ft. Mid-Kansas O&G Co.'s Peckham 1, elev 2155 ft, co with hfw 4373 ft. R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, ur to set 5 3/16 cas at 5000 ft. Seifert & Dibble's Blackburn 1, dr 810 ft.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, elev 2518 ft, sd 550 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' Lowe 2, sd 2560 ft. Eastland Oil Co. et al's A. W. Hunter 2, fsh 2100 ft. Herring et al's Richie 1, elev 1978 ft, sd 2570 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 6242 ft. Sanger et al's Abilene City fee 1, elev 1759 ft, dr 1360 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp. et al's Bassett 1, elev 2396 ft, sd 2670 ft. Mid-Kansas O&G Co.'s Goode 1, elev 2405 ft, sd 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, sd 6780 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

UPTON COUNTY—Gulf Prod. Co.'s J. H. Shirk 1, rig. Penn Oil Co.-Shell Pet. Corp.'s J. M. Halamicek 1, lcn. TP Coal & Oil Co.'s King 1, machine.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 2, dr 790 ft. The California Co.'s N. B. Gordon 1, lcn. California & Atlantic Oil Prod. Co.'s S. R. Allen 1, dr 1590 ft. Black & Massey's Allen 1, dr 165 ft. Empire Gas & Fuel Co.'s Sealy 1, rig. Gulf Prod. Co.'s Hutchings 4, elev 2639 ft, making gas and flowing 50 bbls oil daily and washing hole to complete at 3102 ft; O'Brien 15, top salt 1145 ft,top lime 2290 ft, flowing 40 bbls oil daily, dr pay 2625-45 ft. J. G. Kugle et al's Chas. Wallace 1, machine. Magnolia Pet. Co.'s John Sealy 1, top salt 2090 ft, top lime 2700 ft, flowed 80 bbls 25.6 gravity oil and 1½ mil ft sulphur gas after shot 3036-56 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, sd 1200 ft. Sid Richardson et al's O'Brien 5, top salt 1135 ft, top lime 2315 ft, flowing 5 bbls oil per hour and 9½ mil ft gas daily at 2573-99 ft. Rickford & Smith's Johnson 1, dr 490 ft. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. TP Coal & Oil Co.'s H. James 1, machine.

WINKLER COUNTY—Magnolia Pet. Co.'s Bashara 1, fsh tools 268 ft; Scarborough 3, top salt 1225 ft, top lime 2573 ft, flowing 80 bbls oil at 2827-2858 ft and co cavings. L. C. Turman et al's Daugherty 1, top salt 1440 ft, top lime 2645 ft, dr 2935 ft.

SOUTH TEXAS

BASTROP COUNTY—Champion Bros.' H. B. Smith 1, 1 mi w of Elgin, td 2410 ft, dr. Chas Long's McWilliams' 1, Geo. T. Glasscock sur, td 1040 ft, dr. Pacific O&G Co.'s Litton 1, td 4720 ft, dr. Schimmel & Batts' Trigg 1, Stewart sur, td 1939 ft, closed down; R. M. Trigg 2, Jas Stewart sur, permit granted.

BEE COUNTY—Cosden Oil Co.'s Stoltfus 1, Jose Maria Uranga sur, td 4480 ft, set 6⅝ in cas at 4352 ft, showed 1,000,000 cu ft gas, 260 lbs pressure at 4352-60 ft, coring. Humble's McKinney 8, td 4300 ft, closed down. Hulburt et al's Chestnut 1, Miguel de los Santos sur, td 4580 ft, dr. Humble and Hulbert et al's Wood 1, P. T. Irrigation Co. sur, td 5078 ft, bailing heavy mud. R. Hahn et al's Copeland 1, B. Q. Hadley sur, No. 196, td 3575 ft, closed down. Independent O&G Co. & Moody-Seagraves Prod. Co.'s Quincy 1, A. J. Moyah sur, td 5650 ft, dr; Welder 1, Henry Lyles sur, td 502, set surface cas, waiting on cement. J. S. Mauldin's Mauldin 1 G. A. Kerr sur, td 3734 ft, sd for fuel. Ed Price's Weiss 2, td 4430 ft, top of pay 4411 ft, tested 350 pounds pressure gas in 45 minutes; Weiss 3, 900 ft ne of No. 1, lcn; Weiss 1, td 4422 ft, preparing to swab. Raullins et al's Campbell 1 B&B sur No. 129, td 3198 ft, dr. Rowan and Hope's Goree 1, Thomas Barton sur, dk. Simms Oil Co.'s Holzmark 2, James A. York sur, No. 333, lcn permit granted. Texas Co.'s S. R. Bridges 1, T. Duty sur, permit granted. Union Prod. Co.'s Ray 22, Pettus pool, lcn; Ray 25, td 3630 ft, dr. Wilson and Hill's Townsite 14 (center of blk 14 in Pettus townsite pool) lcn; Townsite 16, (center of blk 16 in Pettus Townsite pool) dk.

BEXAR COUNTY—W. A. Biel's Fee 2, J. A. Simpson sur, No. 59, permit granted. Bowman and Waldrop's Ridder 1, J. M. sur, td 1934 ft, reaming at 730 ft. Collin and Marosis' Halbardier 5, Dobrowolski pool, td 725 ft, prod about 12 bbls; Halbardier 6, 750 ft ne of No. 5 in Dobrowolski pool, moving on. Eckert's P. Dobrowolski 10, 400 ft from w and 150 ft from s line of 80 acre tract in survey 52 Dobrowolski pool, sp in. Eckert and Son's John Brehm 3, sur 58 in Dobrowolski pool, td 700 ft, prod 8 bbls. Gatline Oil Co.'s Beck 3, J. Perez sur, No. 57, moving on. KMS Pet. Co.'s E. Salicky 1, Mission Gardens sur, td 1000 ft, dr. Wm. M. Morgan's Masterson 3, Gortaris sur, td 810 ft, showing large amount of oil. To be drilled into sand before completing. Penn Oil Co.'s Kosub 1, J. W. Ralls sur No. 11, td 1460 ft, coring. J. Morgan Russell's Price Stony 1, A. Navarro sur, td 575 ft, dr. Russell & Moore's Mills 2, Angel Navarro sur, td 1040 ft, dr Snyder, Reeves & Associates' Glasscock 2, td 350 ft, dr. Swearingen Bros.' Halbardier 3, J. Perez sur No. 59, sp in. Swearingen Oil Co.'s Fee 8, mv on. Weilbacher and Associates' Ernst 1, ½ mi n Somerset field, td 710 ft, set cas about 700 ft, show considerable high gravity oil, completing (no later report).

BLANCO COUNTY—Anderson and Manning's Speer 1, John W. Speer sur No. 2, mv on rig, no later report. Adams and Lysles' Leeders 1, James Standford sur No 29, td 690 ft, dr. Meeks et al's E. W. Walker 1, Noel Nixon sur No. 23, td 980 ft, sd. C. L. McCreary's Kiers 1, td 670 ft, sd to re-dr. Forest Oil Co.'s Hohenberger 1, sur 94, td 540 ft, dr. Hardy Sitton's McMillen 1, 2 mi w of Blanco City, td 580 ft, set csg at 560 ft.

BROOKS COUNTY—Ed. East, (Miller and Albricht) B. Garcia 3, 150 ft from n line and 150 ft from w line, blk 5, subdivision of s 1000 acres of n one-half share A-1 Las Mastena Y. Gonzalene Grant, lcn. Southern Crude Oil Purchasing Co.'s Holbein-Wormser 1, td 4930 ft. dr.

CALDWELL COUNTY—Anderson et al's Vickery 1, Damon sur, dk. Gargill et al's Thomas 1, J. Roberts sur, prep to sp in. J. E.

Exploration work in South America to be conducted by the International Petroleum Engineering Corporation of New York City for Caracas Petroleum Corporation, using instruments manufacturing by the Petty Geophysical Engineering Company of San Antonio, Texas, and crews trained by that company will be started shortly, representing one of the biggest seismograph expeditions made in the history of oil country exploration.

The accompanying photograph was taken in front of the historic Alamo in San Antonio just prior to the party's departure for South America. The party includes Sam D. Rogers, chief; W. H. Halbert, assistant chief and computer; Tom J. Moore, trouble shooter; John M. Monk, chief observer; F. Raymond Frampton and Derk Holsteyn, observers, and Gayle Griffin, shooter.

The seismographs are especially built for this expedition and are extremely sensitive, and the expedition is planned to be carried out to a finer degree than has been previously attempted. Motor equipment includes three observer's trucks, one-shooter's truck and one large dynamite truck. The instruments and equipment have been conveniently mounted in the cars ready for immediate use, and given a thorough test in Texas before being shipped. They will be ready to go to work immediately upon unloading in Venezuela. The delicate instruments were permanently mounted on deep cushions to withstand the usually rough treatment that they must be subjected to in transportation over thousands of miles of rough country. All wood used in the construction of the cases, and even the cushions on which they rest, were especially treated to prevent damage by the ravages of insects.

Sixty cases of scientific apparatus and batteries were shipped besides that carried in the trucks. Almost two tons of dry cell batteries were sent down.

This is the third crew that has been sent to Venezuela by the International Petroleum Engineering Corporation during the past four years. All were trained and equipped by Petty Geophysical Engineering Company.

The crew drove their trucks to New Orleans and crew and all equipment with trucks sailed from that port November 8, on board the United Fruit Company's steamship Iriona. They will change steamers at Panama and land at La Guiara, Venezuela. From La Guiara they will drive to Caracas and thence overland to the site of the work.

Mills et al's J. S. McMahan 1, Pinchback sur, td 1200 ft, dr.

COMAL COUNTY—Caldwell and Lanier's T. J. Byler 1, td 600 ft, prep to set csg.

DE WITT COUNTY—Gibson et al's William Van Roeder 1, William Dill sur, td 2357 ft, dr. Sheldon Pet. Co.'s Goehring 1, H. Stubblefield sur, lcn. Penn Oil Co.'s Junkers 1, John F. Pettus sur, td 3508 ft, dr.

DUVAL COUNTY — Cooperative Drilling Co.'s John Dinn 4, blk 4, sur 454, td 1742 ft, set 6⅝-in csg at 1731 ft, sand 1729 ft, waiting on cement. Frasher and Schoolfield's Bishop Duval Land Co. 1, td 2200 ft, dr. Humble's Koehler 50, td 36 ft, set 10-in csg, waiting on cement. Mag. Pet. Co.'s Edge-Hahl 1, td 3012 ft, standing; Benavides 3-A, td 2848 ft, prod 15,000,000 cu ft gas, 1000 lbs rock pressure; Benavides 4 td 1760 ft, ru to dr deeper. Sloan et al's Luby 1, sw corner of sur 693, lcn aband. SRC's Duval County Ranch Co. 2, td 1906 ft, closed down; Duval County Ranch 1, ru. The Texas Co.'s Duval County Land Co. 1 (2490 ft s line and 150 ft n line, sur 297) lcn. Vacuum Oil Co.'s Duval County Ranch Co. 1 (3143 ft from n line and 1560 ft from e line, sur 280) dk.

EDWARDS COUNTY—James Dalgish et al's Sid Peterson 3, Warner Ranch, about 4800 ft, dr. Phillips Pet. Co.'s Holman 2, sur 25, td 6362 ft, dr.

FRIO COUNTY—Wray and Dunbar's Barnes 1, 1 mi n of Big Foot, td 2714 ft, dr, csg set 2311 ft, gas show developed 1000 pressure at 2311-68 ft. United North and South Dev. Co.'s Little 1, in J. J. and Sallie Little Ranch, td 4040 ft, dr in Glen rose.

GOLIAD COUNTY—Gibson Oil Co.'s C. B. Parks 1, td 4500 ft, dr. Remenschneider et al's A. T. Fromme 1, Simpson blk, td 2302 ft, standing. T. B. Slick et al's Potter 1, td 1970 ft, dr. Union Prod. Co.'s Ray 27, 1500 ft from se line and 4550 ft from sw line of Jabian Gomez sur, 2 mi ne of Union No. 3 Ray, lcn; Ray 28, 150 ft from s line and 800 ft from w line of 416.5-acre e Ray tract, 2 mi due e of line of Union No. 3 Ray, lcn; Ray 29, td 4434 ft, closed down.

GONZALES COUNTY—Antibus and Cummings' Miller 1, Ann Williams sur, td 2514 ft, dr. Geo. Lawrence et al's Pettit 1, 122 ft dk erected to mv on rig immediately for 5000 ft test. Linden Pet. Co.'s Hensley 1, td 4811 ft, failing oil, water and gas. United North and South Dev. Co.'s Wells 1, td 3190 ft, dr.

GUADALUPE COUNTY — Adams and Lysles' Seligman 1, td about 2300 ft, top of Edwards 2251 ft, closed down. Guld Production Co.'s Tadlock 5, 300 ft s of No. 3 and 150 ft from w line, sp in. Humble's Denman 19-A, 2888 ft from se corner and 450 ft from ne line of tract, td 2590 ft, prod 800 bbls; Denman 20-A, 2558 ft from se corner and 450 ft from ne line, td 2585 ft, prod 1200 bbls daily; Sue Denman 1-B, 150 ft each way out of nw corner of tract in ne corner of Jacob Darst sur, dk; D. D. Baker 9, td 2540 ft, csg set at 2528 ft, prod 225 bbls. Mag. Pet. Co.'s Rand Miller 5, td 2654 ft, csg set 2622 ft, prod about 400 bbls; Thomas Dix 13, td 2570 ft, set 6⅜-in csg, prod 425 bbls; Thomas Dix 14, td 2565 ft, being completed; Rand Miller 6 td 2627 ft, prod 50 bbls; Annie Knodel 4, td 2582 ft, set 6⅝-in csg at 2534 ft, pumping about 550 bbls. Suttle et al's Baenzinger 2, td 1957 ft, csg set at 1763 ft on top of Austin chalk, bailed several bbls of oil and showed considerable gas, no further information. The Texas Co.'s Lemmie Anderson 6, td 1720 ft, dr; Knoblock 6-A, td 790 ft, dr; Knoblock 7-A, td 920 ft, dr; P. Roamel 4, td 1825 ft, dr; R. C. Appling 1, td 1690 ft, dr; H. M. Wurzbach Fee 1, no report on depth.

JIM HOGG COUNTY—Cole Pet. Co.'s W. P. Allen 1, td 1575 ft, dr. H. W. Pippin's Hinnant 1, td 1620 ft, dr. J. D. Pulliam Jr.'s Jones 1, td 1620 ft, dr. E. E. Watts Agent's Gomez 1, td 2000 ft, plugged back to 1103 ft, set 6⅝-in csg at 1070 ft, waiting on cement. H. P. Wilson's Edds 1, sur 210, ru to sp in shortly.

KARNES COUNTY—Fort Bend Oil Co.'s Newberry 1, Carlos Martinez sur, td 2976 ft, sd for orders. J. Morrissy's Ragsdale 1, J. M. McCoull sur, td 1998 ft, standing.

KERR COUNTY—L. L. Evans, Walter Gant et al's (Mashe & Turnstill) Jeff Love 1, td about 2600 ft, dr deeper; sand from 2544-47 ft, yielded 2 bbls of light-green oil testing 39.6 gravity at temperature of 70 degres. Deepened to 2563 ft in black shale, but no increase was obtained, well shot.

KENDALL COUNTY — Abercrombie and Harrison's Konze 1, td 1610 ft, dr. Borget et a's Willie Haag 1, td 1250 ft, re-dr. R. M. Perkins' Lawhorn 1, td 600 ft, dr. Dixon et al's Behr 1, 3 mi se Sisterdale, td 2290 ft, sd for orders. Permian Oil Co.'s Boles 1, td 1530 ft dr. Hardy Sitton's W. B. Garvin 1, near Kendalia, td 880 ft, dr. P. B. Sterling's McCrocklin 1, 4 mi w of Kendalia, td 1600 ft, dr.

LA SALLE COUNTY—Fred Volvz's Coleman 1, set 40 ft 10-in csg, waiting on cement.

LIVE OAK COUNTY—Houston Oil Co.'s Dunning 3, lcn cleared; Snyder 1, td 3620 ft, reaming; Cartwright 22, td 5424 ft, washing, after dr plugs; Boothe 1-A, td 5273 ft, top of pay 5266 ft, set 6⅝-in csg at 5266 ft, waiting on cement. Jacobs, Buzzini and Pickett's Kay 1, td 700 ft, sd. Sid Keoughan's C. E. Terrell 1, td 2850 ft, dr. Illinois Exploration Synd., Reeves Brown 1, ru. Tul-Tex Oil Co.'s L. Jacobs estate 1, td 1800 ft, dr, dst 1010 ft, showed 540 ft salt water in 3 minutes and good show of gas. Penn Oil Co.'s R. C. Lyne 2, ru.

McMULLEN COUNTY — Brodie, Shearer and Emrich's Shiner 1, 8375 ft from n line and 380 ft fro me line, H. Brewer sur No. 1 se of Tilden, spudded and standing. Mogul Pet. Co.'s Martin 1, td 28 ft, set 10-in csg, now standing. Whall et al's Shiner 1, H. M. Brewer sur, permit granted.

MAVERICK COUNTY—Rycade Oil Co.'s Sullivan 5, blk 7, center of sec 82, td 8092 ft, bit lost in hole, trying to side track; Chittim 6, td 3640 ft, to re-dr.

MEDINA COUNTY—Calco Pet. Co.'s Crawford 1, td 2752 ft, dr in Edwards topped at 2712 ft, formation tight. J. O. Dore's R. J. Taylor 1, 1000 ft from e line and 150 ft from s line of 160-acre tract, sec 136, permit granted. Natl. Oil Co.'s Howard 1, 6 mi nw Devine, td 1645 ft, standing.

MILAM COUNTY—Lloyd Oil Corp. & H. W. Elliott's J. W. Davis 1, td 1300 ft, dr in Eagle Ford, had showing of oil at 1100 ft in bottom of Austin chalk. Texas Co.'s F. W. Moore 1, 150 ft from s and w lines of 243-acre tract in Acosta sur, permit granted.

NUECES COUNTY—Callahan O&G Co.'s Allen 2, td about 1500 ft, dr. Houston Oil Co.'s Comstock 1, td 3386 ft, dr; Hunter 1, 600 ft from w line and 165 ft from s line of 75-acre tract in sec 591, lcn. Moody-Seagraves Prod. Co.'s Smith 1, J. Dunn sur, td 1880 ft, dr. Saxet G&O Co.'s Donigan 2, td 6178 ft, dr; Dunn 7, 2400 ft from nw and 200 ft from ne corner of tract, dk. South Tex Prod. Co.'s Walters 3, td 1984 ft, completed for about 20,000,000 cu ft gas and 650 lbs pressure; Ollie Purl 2, 1200 ft ne of No 1, td 1986 ft, prod 35,000,000 cu ft gas. H. H. Weinert's Mohle 1, td 900 ft, dr.

REAL COUNTY—McGinley and Gigler's Habley 1, td 700 ft, dr.

SAN PATRICIO COUNTY—Cosden Oil Co.'s Powell 1, td about 4500 ft, dr; Ramsey 1, td 2000 ft, ru to re-dr. Jacobs, Buzzini and Pickett's J. C. & Bobby Baldwin 1, td 4020 ft, sd to mv on heavier rig, to drop until operations are resumed. J. L. Kenedy's Lollie McRae 1, td 2152 ft, sd to drop until operations are resumed. Peterman Oil Co.'s O. K. Crow 1, 2 mi s of Sinton, td about 4100 ft, sd to drop until operations are resumed Saxet Oil Co.'s Carroll 1, dk; Raschall 17, td 4892 ft, csg set 4887 ft, made large gasser at 4887-4892 ft, now prod 35 to 75 bbls oil with 2050 lbs pressure, to use high pressure pump and kill flow of gas to dr slightly deeper.

STARR COUNTY—Los Olmos Oil Co.'s Kelsey-Bass 2, dk. The Texas Co.'s V. G. Guerra 5-A, td 3670 ft, tested 7 joints oil and mud with considerable gas pressure, set 6⅝-in csg at 3541 ft on top of sand, waiting on cement.

UVALDE COUNTY—Phantom Oil Co.'s Claudt 1, sur 611, td about 2800 ft, sd. Waldrop and Welsh's Edmonds 1, td about 1200 ft, standing.

VAL VERDE COUNTY—Independent Operator's Whitehead 1, td 5430 ft, set csg. Phantom Oil Co.'s Ingram 1, td 3055 ft, sd.

VICTORIA COUNTY—Houston Oil Co.'s McFadden 1, td 4563 ft, dr. Lion O&R Co.'s McFadden 2 td 6448 ft, prep to shoot, stuck dr stem and plug back to sand at 3700 ft. The Texas Co.'s McFadden 1, td 5840 ft, dr.

WEBB COUNTY—Alamo Dr. and Leasing Co.'s S. Benavides 2, td below 2300 ft, set 6⅝-in csg, waiting on cement. Usher Carson et al's Benavides 3, blk 7, sur 1613, lcn. O. W. Killam's Killam 1, td 2930 ft, sd down; Bruni 1, td 3022 ft, closed down, test water and gas; Bruni 1, 2490 ft from e line and 1170 ft s line sur 77, dk; Garcia 1, td 2013 ft, sd down, sand at 1848 to 1860 ft, tested gas and water; Garcia 2, 605 ft from s line and 150 ft from e line, blk 43, Los Ojuelos Grant, dk. Geo. S. Marshall's C. W. Webster 3, td 2190 ft, dr, tested 15,000,000 cu ft gas at 2123-60 ft.

WILLIAMSON COUNTY—Anderson et al's Lawrence 8, s offset to No. 1, to sp in. Bartlett and Wilson's R. E. Stewart 2, no report. E. L. Chapman's J. C. Abbott 6-D, td 700 ft, dr; Sides 2-A, prep to sp in. E. E. Ertel et al's J. C. Abbott 7, td 900 ft, dr; J. C. Abbott 8, dk. Elliott et al's A. J. Carlson 1, td 1100 ft, dr. Haska Bros.' Guentzel 1, e of Chapman field, td 2275 ft, dr in, csg set 2144 ft. Martin et al's S. Jarrall 1, td 40 ft, sd. Stratton and Horn's J. C. Abbott 9, on w side of lease, td 600 ft, dr. A. M. Keisker's E. L. Chapman 1, dk. Texas Gas and Fuel Dev. Co.'s Gernett and Allison 1, 9 mi ne of Taylor, td 40 ft, sd. Sarsfield and Wilson's J. A. Walker 1, td 700 ft, sd; C. Sitman 1, near Coupland, td 3000 ft, to mv on and re-dr. Williamson County Pet. Co.'s Kilgore 7, mv on; Kilgore 8, 450 ft e and 150 ft from s line of 50 acre tract in S. Miller sur, permit granted.

WILSON COUNTY—Rycade Oil Co.'s Johnson 1, J. M. Blameseda sur, to sp in shortly.

ZAPATA COUNTY—Allied O&G Co.'s Guitierrez 12, td 100 ft, standing. Blair and Son's E. Guitierrez 1, td 1750 ft, standing. O. W. Killam's Lopez 1, td 1736 ft, standing; Cuellar 32-B, td 815 ft, dr; Cuellar 33-B, td 1316 ft, dr. Lincoln O&G Co.'s Guiterrez 1, td 1150 ft, standing. Mackenzie and Tallmadge's G. F. Trevino 1, td 221 ft, dr. William Marks' Flores 1, lcn. Moore and Moore's Adela G. De Flores 1, td 2000 ft, standing at 1573 ft, reported tested dry; Adela G. De Flores 2, td 50 ft, standing. Nordan and Morris & Grimm and Yakey's S. Bustamente 1, dk. Natl. Oil Co. of Texas' Luther et al 1, ru to sp shortly. B. F. Nixson's A. Guitierrez 1, td 37 ft, set 10-in csg, waiting on cement. John O'Hern's S. Benavides 1, td 1404 ft, standing. John Pappas Pool Inc.'s Flores 1, prep to sp in. Penny Prod. Co.'s Juan V. Cuellar Jr. et al 1, td 1761 ft, dr, sand at 1748-58 ft showed gas and water. Pal-Mar Oil Co.'s Jose Bustamante et al 1, td 355 ft, standing. W. R. Shankle's Guittierrez 6, Guitierrez 7, lcn. SR&C Oil Corp.'s F. Cuellar 1, sur 62, lcn; F. Cuellar 1, sur 285, lcn; Cuellar 2-F, 300 ft from s and e lines blk 8, survey 19, lcn; Montemayor 2-D, td 1308 ft, 6⅜-in csg set at 1291 ft on top of sand, prod 100 bbls. South Texas Prod Co.'s F Guittierrez 1, td 1735 ft, 6⅝-in csg set 1728 ft on top of sand, tested 625 lbs through tester. Wicker, Arnold and Ahler's M. Garza 3, dk. J. W. Winch's Alejandro Bustamente 1, td 1251 ft, set 6⅝-in csg in 1216 ft, sand at 1216-32 ft, cap 1233-35 ft, another sand 1236-51 ft, 600 ft oil setting liner.

ZAVALLA COUNTY—Ed Anglin's Matthews 1, td 1020 ft, closed down; Pryor 5, td 1120 ft, closed down. Texas Gas Utilities Co.'s Pryor 2, td 1695 ft, dr. F. W. Weigand's Gates 1, td about 3125 ft, sd.

EAST TEXAS

CASS COUNTY—Wesley Morse et al's Henderson 1, C. C. Bailey sur, dk. Texas Co.'s Citizens State Bank 1, Jos. Watkins sur, top chalk 2260 ft dr hd chalk 2853 ft. Jno. C. Rodgers' Lanier 1, K. A. Welborne sur, cor sandy shale 2190 ft. Williams 1, Moses Frazier sur, dk pat. Phillips Pet. Co.'s J. R. Olds 1, dr 1500 ft.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, arr deeper td 3520 ft.

MARION COUNTY—Trammell et al's Hussey 1, Chas. Lockhart sur, elev 282 ft top chalk 1771 ft claim oil show r to set 8-in cas 2 ft hd chalk at bot td 1884 ft.

PANOLA COUNTY—Knott et al's Marion Durham 1, Chas. Haley sur, claim oil show in lime set 6⅝-in cas 2670 ft td 2732 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendrick sur, cored sandy shale show oil 8⅛-in cas 2027 ft dr lime 2454 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, dr 4202 ft. Creighton & Hart's Kyle 1, J. Tippett sur, top chalk 1444 ft top Blossom 2216 ft r to bot in shale td 3004 ft. Warren & Dawes' McNeese 1, A. Booker sur, dk. W. G. Banks' Baldwin 1, Hampton West sur, rig. Texas La. Prod. Co.'s Baker 1, B. C. Jordan sur, dr hd chalk 1585 ft. Natural Gas Prod. Co.'s H. H. Alvord 1, B. C. Jordan sur, 15½ cas 20 ft dr 400 ft.

SABINE COUNTY—Loring Oil Co.'s Nona

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Mills Lbr. Co. 1, Jas. Mason sur, 9-in od cas 4150 ft tested ½ mil ft gas in limey shale 4200 ft arr deepen.

SHELBY COUNTY—C. R. Rideway's Parker 1, Jesse McKelvey sur, 9-in cas 1831 ft dr shale 2644 ft. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

TEXAS GULF COAST

AUSTIN COUNTY—O'Hara et al's Schrader 1, sd. Empire's Kunze 1, San Felipe, 4643 ft in sh. Humble's Duncan State Land 2, e edge Raccoon Bend, 3477 ft in sn. R. Hardy B-3, e edge Raccoon Bend, dk.

BRAZORIA COUNTY—Thos Faust et al's Fee 6, 2 mi s Nash Dome, 5541 ft in sn. Steel & Strickland's Lochridge 1, near Lochridge, sd. Rycade's Wisdom 1, Nash Dome, set and cem csg at 4135 ft. Rycade & Amerada's Seaburn 2, Stratton Ridge, 3907 ft in sh. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, 3444 ft in sh. The Texas Co.'s Ewing 1, Manvel, 7430 ft in sh. J. H. Murdock 1, Fresno, dr in sh at 5816 ft. Mills Bennett's Allen 2, Allen Dome, hd sn at 5165 ft wsh down. Randon, Allen Dome, dr at 1911 ft in hd li. United Oil Syndicate's Speers 1, 3 mi n Danbury, 100 ft in gbo.

CALHOUN COUNTY — The Texas Co.'s Thomas 1, Chocolate Creek, J. P. Tilley sur, abn in sh at 5956 ft.

CHAMBERS COUNTY—Pure's Lost Lake 5, set csg w.o.c.; Mayes 12, Lost Lake, woc. Shell's Herff 2, Moss Bluff, hd sn li at 5557 ft. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sn and sh at 4080 ft.

GALVESTON COUNTY—Gulf's Smith 10, High Island, sn and sh at 5792 ft with slight oil show, st ds.

GRIMES COUNTY—Wainwright-West Oils, Ltd's Templeman 1, 6 mi s Navasota, cleaning out to drill deeper. R. H. Byrd-Deering et al's Muenker 1. ½ mi n Anderson, dr at 3290 ft.

HARDIN COUNTY—D. O. Speight's Gidrey 1, 4 mi s Batson, stdg.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, driving 9⅝-in csg at 4993 ft; Warren S. Hockley, sh at 5557 ft; Minnetex 4, Mykawa, hd sn and li at 1349. W. C. Turnbow et al's Miller 1, 3 mi e Deer Park, sn at 2715 ft. Mrs. J. C. Baldwin's Kittman 1, 2 mi n Cypress, shut down. Gulf States Oil Co.'s Augspurger 1, 8 mi n Houston, sh and li at 2856 ft. Golden Star Pet. Co.'s McDade 1, 1 mi n Dyersdale, abn at 6016 ft in sn and sh.

JACKSON COUNTY — Jackson Co. Oil Synd's Drushell 8, Edna, shut down; Lee 2, wo, Edne Gas Field, sh and li at 3936 ft. Warner-Quinlan's Hungerford 1, Henry Smith sur, lcn.

JEFFERSON COUNTY — Westbury Oil Co.'s West 1, s Choate sur, shut down. The Texas Co.'s Pipkin 4, Big Hill, hd sn and sh at 3097 ft. Humble's McFaddin 1, 8-½ mi e Big Hill, dr plug.

LIBERTY COUNTY—Saxet Oil Co.'s Davis 2, n Dayton, gbo and li at 4635 ft. Harrison Oil Co.'s Quintette 4, sn and sh at 4745 ft gas show. Harrison-Abercrombie's Jones 1, no report. Gulf's Ezzell 1, Hankamer, stky sh at 5465 ft. Yount-Lee's Moores Bluff 3, Esperson, sh and sn at 7817 ft. Humble's Breeden 1, Moss Bluff, sn and sh at 6051 ft. Hylton 1, Moss Bluff, dr in sh at 6443 ft; Sergent 1, sn sh at 5630 ft.

MATAGORDA COUNTY—Empire's Boker 1, Citrus Grove, hd sn li, 5977 ft. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, north dome dr in sh at 4503 ft.

MONTGOMERY COUNTY — Price & Wilhite's Juergus 2, 3 mi n Conroe, shut down. Lake Creek Oil Co.'s Hunt 1, Conroe, shut down.

ORANGE COUNTY—The Texas Co.'s Stark 2, Port Neches, hd sn cem back to 4144 ft. Gulf's W. H. Stark 1, Port Neches, abn in sn at 6988 ft.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, shut down.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi w Brenham, shut down.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, shut down; Volney 1, Boling, dr in sh at 508 ft. Givan et al's Hudgins 1, dr in gbo at 590 ft.

SOUTH LOUISIANA

ACADIA PARISH — Houssiere-Latrielle 9, Evangeline, 8376 ft in shale.

ASCENSION PARISH—Gulf's United Lds. Co. 7, Sorrento, abn at 2275 in salt.

ASSUMPTION PARISH—Poor Boys Drlg. Co.'s LaBarre Est 1, 47-12s-13e, stdg.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, 5-1n-3e, shut down. M. L. Vincent's Morrow 1, 14-2s-4e, 4220 ft in sh and li.

CALCASIEU PARISH — Wilfred Lahay's Jardell 1, 25-10s-12w, dk. J. O. Davis' Ind. Lbr. Co. 1, Starks, reaming out hole at 6185 ft. Yount-Lee's Miller 1, w edge Lockport, oil show and set screen at 6668 ft. Union Sulphur Co.'s Martha Moss 1, Lockport, dr in shale and lime at 6858 ft. Dr. Thomas et al's Hewitt 1, lcn. Crawford Doyle's Johnson 1, nw flank Starks, rep rig.

CAMERON PARISH—Pure's Yount-Lee 10, Sweet Lake, set 18⅝-in csg at 135 ft. Shell's Watkins 16, Black Bayou, lcn. Black Bayou State 2, Black Bayou, lcn. Freeport Sulphur Co.'s Yount-Lee 4, Black Bayou, reaming out hole; Yount-Lee 5, Black Bayou, dr in li at 1283 ft. Vacuum Oil Co.'s Cameron Meadows 1, Cameron Meadows, sh at 5175 ft. The Texas Co.'s Calcasieu Lake State A-6, fsh for ds. State East Hackberry 7, sd rep rig. F.R.E. Tr. John Vincent 1, Hackberry ru.

IBERIA PARISH—The Texas Co.'s Vermilion Bay 6, lcn.

IBERVILLE PARISH—Standard's Wilbert 8, Bayou de Blaise, 3646 ft hole heaving; Wilbert 7, Bayou Blue, dk. Standard's L. Baist Cooperage Co. 1, Bayou Blue, dk fdn. E.B. &S.P. Schwing 1, hd sn at 4434 ft. Shell's Wilbert 5, White Castle, hard sn and li and sn gr with slight show oil. Gulf's Gay 1, Bayou Choctau, set 18⅝-in csg stdg. Tex Gulf Sulphur Co.'s Wilbert 4, Bayou Choctau, abn at 656 ft; Wilbert 5, lcn; Wilbert 6, lcn; Wilbert 7, lcn.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, Barataria dome, cored sn and sh at 6802 ft.

LA FOURCHE PARISH—The Texas Co.'s LL&E-Leesville 1, 27-21s-22e, abn at 5662 ft in sn sh.

PLAQUEMINES PARISH—Humble's Cock-

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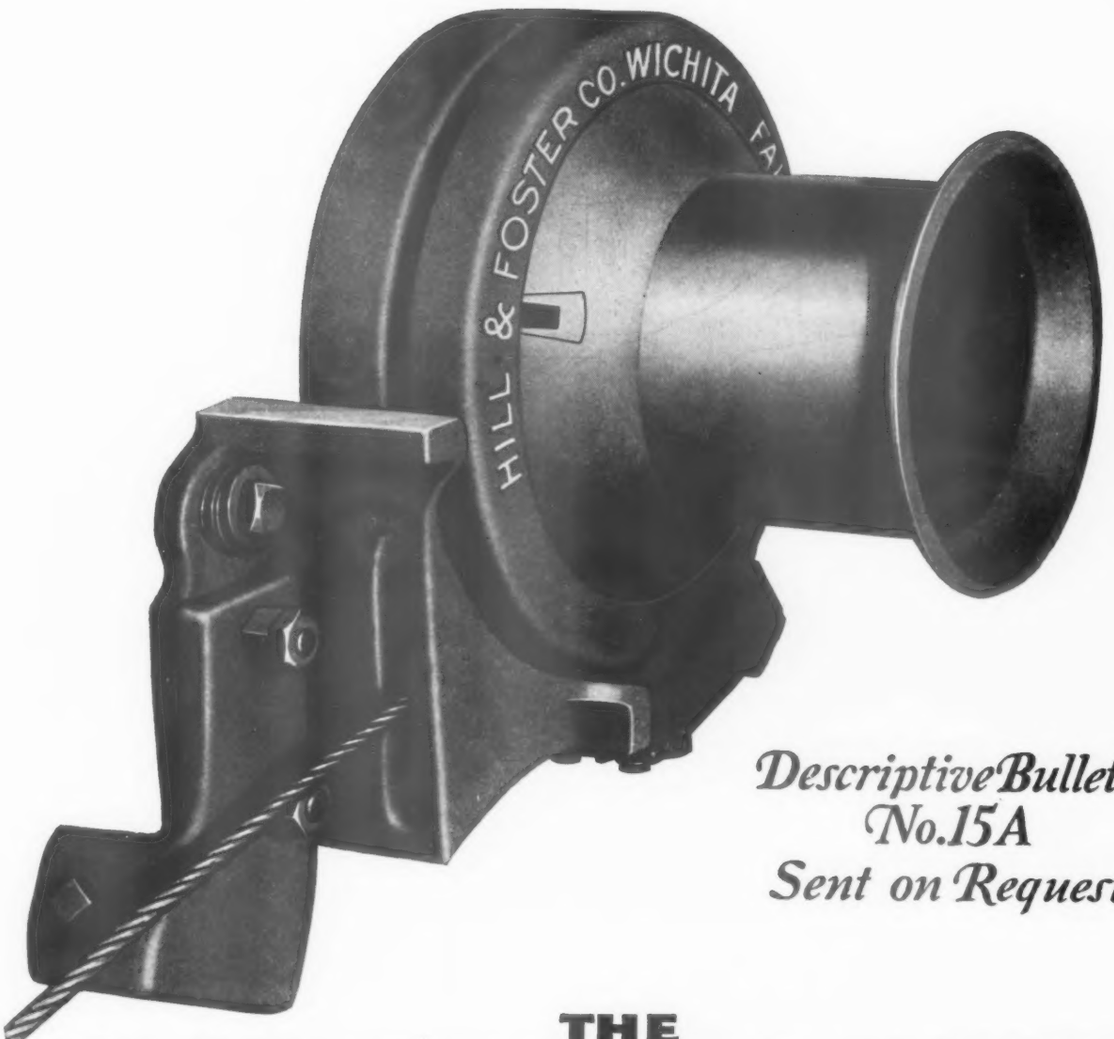


Descriptive Bulletin No. 15A Sent on Request

THE NATIONAL SUPPLY COMPANIES

rell-Moran 2, Lake Orange Ecaille, unloading casing. Garden Island Bay State 4, sdtr at 3-27 ft.

ST. JAMES PARISH—Convent Oil Co.'s Jacobs 1, 28-11s-4e, stdg.

ST. MARTIN PARISH — The Texas Co.'s Iberville Ind. Co. 3, Hager dome, lcn. St. Martin Ld. Co. 5, Hager, dk. Rycade's Woodyard Lake 1, Bayou Boulllon, fsh; State 4, Bayou Bouillon, water sand at 4084 ft.

ST. TAMMANY PARISH — Washington & St. Tammany Drl. Co.'s Coussack 2, 5-6s-10e, sn sh at 1103 ft.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd. La. Gas & Fuel Co.'s Minor Est. 1, Houma, gas show, Halliburton test showed gas and sw stdg. The Texas Co.'s Bay Junop 2, sn sh at 5697 ft. Dog Lake A-3, sn at 5473 ft. Caillou Island State 4, lcn; Caillou State 5, cap rock at 4014 ft. Lake Pelto State 4, lcn; No. 5, lcn; No. 6, capped piling. Bay St. Elaine 5, dk; No. 6, lcn; LLE-Bay St. Elaine 1, wor. Lake Barre No. 6, lcn; No. 7, piling. Four Isle 4, dr at 6377 ft in sh.

NORTH LOUISIANA
Completions

BOSSIER PARISH—		
H. I. Morgan et al, Kendricks B-10 22-19-11	35	1750
DESOTO PARISH—		
Odell & Lawton, Tidwell-Tull 1, 11-13-14	*	3095
CONCORDIA PARISH—		
Louisiana G&F Co., Pittsfield Plantation 1, 41-8-10	*	2434
SABINE PARISH—		
Lacey-Barkett Oil Co., D'Anna 1, 26-8-12	75	2412
Lyons et al, Williams 1, 32-8-11	*	2444
WEST CARROLL PARISH—		
Ark. La. P. L. Co., Griffith 1, 17-22-10e	*	3005

BIENVILLE PARISH — Triangle Drilling Co.'s et al's McDermott 1, 28-18-6w, 6⅝-in cas 2174 ft, found cas loose will re-cement td 3300 ft. S. P. Borden et al's Thomas 1, 27-16-9w, 7-in cas 4033 ft td 4042 ft. Carter & Dobbs' White 1, 9-18-6w, sd wo fuel 2240 ft. Olds & Smith's Brice 1, 15-16-6w, top Cane River 530 ft 6⅝-in cas 2156 ft td 2230 ft. Cagle Bros' Lawhon 1, se ne 15-16-8w, rig.

BOSSIER PARISH — Andrews & Davlin's Nattin 1, 15-22-14, 8-in cas 1471 ft sd 1546 ft. H. I. Morgan & Shreveport-El Dorado P. L. Co.'s Kendricks B-10, ne sw 22-19-11, 6⅝-in cas 1740 ft making 35 mil ft dry gas td 1750 ft. Kendricks B-11, ne sw 22-19-11, rig. La. O. R. Corp.'s Bodcaw-Fee B-14, se sw 11-19-11, sp dry thru ds r to bot td 2030 ft. Rambaug et al's Allison 1, 10-19-13, sd 480 ft.

CADDO PARISH—Texas La. P. L. Co.'s Wall 1, 33-23-16, dr red shale and sand 3378 ft. French 1, sw nw 34-23-16, dr hd sand 4292 ft. Hunter Land & Inv. Co.'s Fee 1, 32-18-14, dr below 935 ft.

CATAHOULA PARISH — National Drlg. Co.'s Marsh McMillian 1, 26-9-6e, dr 2450 ft.

CLAIBORNE PARISH — Triangle Drilling Co.'s Brownfield 1, nw ne 6-19-5w, ds stuck 4049 ft. J. W. Stevenson 1, sw se 6-19-5w, 9-in cas 4060 ft, td 4065 ft. Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2200 ft. Bough et al's Alexandria 1, 27-20-8w, sd 2200 ft. Prairie O&G Co.'s F. B. Shackelford 1, se ne 30-23-5w, rig. La. O. R. Corp.'s Langston 10, 19-21-7w, rig.

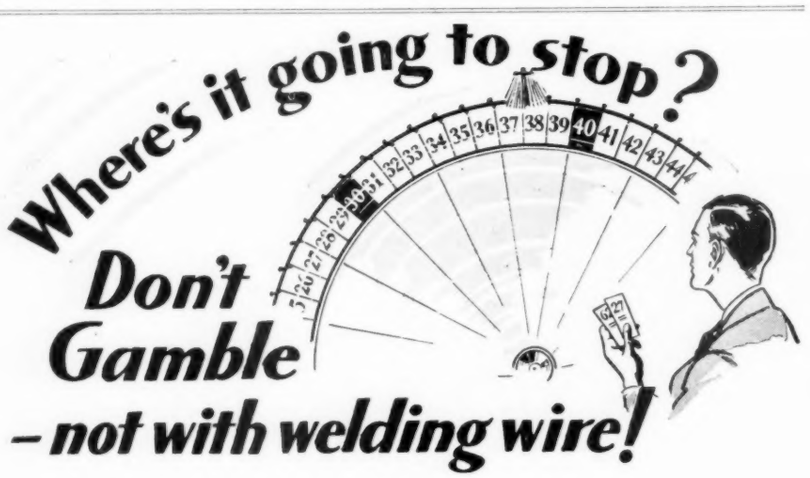
CONCORDIA PARISH — La. G&F Co.'s Pittsfield Plant 1, 41-8-10e, dry abn td 2434 ft, (formerly Glassell et al's test and it showed 3 mil ft gas in Jackson formation.) Glassell et al's Britton-Koontz Nat. Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, 8-in cas 2000 ft dr 3430 ft.

DESOTO PARISH — Odwell & Lawton's Tidwell-Tull 1, 11-13-14, 6⅝-in cas 3095 ft sw abn td 3095 ft. Holly Oil Co.'s **Talbot 1, 9-13-13**, sr 2895 ft. J. W. Clark's Tidwell 1, 22-13-14, 6⅝-in cas 2910 ft bailing td 3083 ft. W. H. Weichert's H. Smith 1, 31-14-15, dry thru ds 1470 ft dr 1580 ft. Standard Oil Co. of La.'s Dowling Bros. B-1, sw sw 32-14-13, sp 10-in 170 ft dr 660 ft. Neff et al's Dowling 1, se se 18-13-14, sp 10-in 42 ft. S. A. Guy et al's Dowling Bros. 1, 31-14-14, sd 1354 ft. Ark. La. P. L. Co.'s Johnson 3, 1-11-14, tested sw show gas 2930-85 ft. dr sand 2990 ft.

NATCHITOCHES PARISH—Gulf Ref. Co.'s Bodcaw Lbr. Co. 1, sw ne 13-13-8w, lcn. W. M. Coates et al's Collins 1, 28-9-10, base chalk 2612 ft sd 3600 ft. J. W. Cooper et al's Copper 1, 35-11-10, sd 1557 ft.; Cooper 2-A 35-11-10, fsh ds 1150 ft.

RED RIVER PARISH—Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, cor 2860 ft. T. G. Shaw's Wilkinson 1, se se 4-12-10w, 6-in cas 2240 ft, 700 ft oil in hole, made heads while blg wosr td 2838 ft.

SABINE PARISH — Magnolia Pet. Co.'s Giaque 1, 26-7-14, arr to abn td 4015 ft. McDaniels et al's Batson 2, 16-8-12, 6⅝-in cas 2190 ft blg to test td 2440 ft. Loring Oil Co.'s Middleton 1, 26-8-12, set 6⅝-in cas 2329 ft dry sd 2650 ft; Middleton 2, 26-8-12, 6⅝-in cas 2332 ft dry 2440 ft dr 2450 ft. Lacey Barkett Oil Co.'s D'Anna 1, 26-8-12, 6⅝-in cas 2194 ft pumping 75 bbls oil day td 2412 ft. Lacey Jesup Oil Co.'s Brown Lbr. Co. 1, se ne 28-8-10, dr 1236 ft. Lacey Prod. Co.'s W. M. Cooper 1, 30-8-11, rig; Cooper 2, nw sw 32-8-11, dk. A. H. Teat's Craig 1, ne ne 25-8-12, top marl 2329 ft 6⅝-in cas 2329 ft tested dry show sw and oil 2450 ft blg to test 2530 ft. Eylers O&G Co.'s Fraser 1, nw sw 10-8-11, sd 30 ft. R. L. Gay, Tr.'s Bowman-Hicks 8, 18-7-13, plug back to 2392 ft wo cmt to set old td 2552 ft; Bowman-Hicks 9, ne sw 18-7-13, 6⅝-in cas 2187 ft dr in. Sabine Lbr. Co. A-1, se ne 1-7-12, rig. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3310 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, 6-in cas 2310 ft dr 2580 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, partly rigged up wo. Lohman & Walker's Hubley 1, 21-7-11, top marl 2461 ft 6-in cas 2432 ft, tested dry 2490 ft, arr deepen. Pelican Nat. Gas Co.'s La. Long Leaf 4, 4-7-11, wo gauge, td 2557 ft; La Long Leaf 6, nw sw 4-7-11, sp 12-in 103 ft dr 829 ft. Philip et al's Turner 1, nw nw 4-7-11, lcn. Loring Oil Co.'s Bowman-Hicks 13, 2-7-12, 6⅝-in cas 2290 ft dr 2450 ft. Texas Co.'s Maines et al 1, ne se 5-7-11, sp dr shale 1955 ft. Longoria et al's Belton 1, 31-9-12, rig. Franks et al's Hays 1, 22-8-11, sd 1325 ft. David M. Lide's Ponder 1, 15-7-11, top marl 2393 ft top chalk 2407 ft 6-in 2385 ft dry show o&g 2800 ft, wo. Sabine 1, 12-7-12, dk. Lyons et al's Williams 1, sw se 32-8-11, 6-in 2261 ft, junked and td



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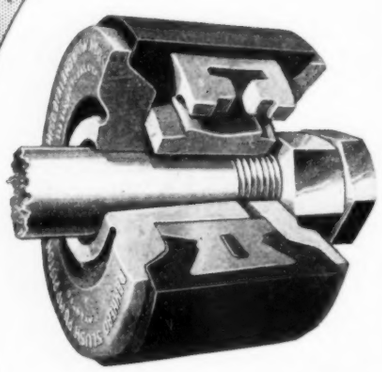

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2444 ft. W. M. Coates' Sabine 1, 1-7-12, dr black shale 2165 ft. Wilson & Sons' Gandy-Garrett 1, 4-5-12, dr 1530 ft. Toteco Oil Co.'s La. Long Leaf 1, 18-6-12, 6⅝-in cas 3985 ft, cemt off sw 300 sacks cement arr deepen after tested hot sw at 4077 ft. Tom David's Smith 1, 27-8-10, dr 1500 ft, (corrected depth.) Merritt et al's La. Long Leaf 1, 33-8-11, cor black shale 2214 ft. Standard Oil Co. of La.'s Bowman-Hicks 1, 25-8-12, top marl 2360 ft, 6⅝-in cas 2350 ft, dr 2600 ft. Tarver et al's Sabine State Bank 4, 26-8-12, 6⅝-in cas 2324 ft, dr chalk 2830 ft. H. W. Perritt's Bowman-Hicks 1, 2-7-12, sd 1700 ft. Sabine Synd's Pearce 1, 10-7-11, 6-in 2290 ft. R. B. Whittle's Sabine Lbr. Co. 1, sw sw 36-8-12, dk. J. W. Clark's Lites 1, se nw 34-8-11, dk pat. Frank Melat's Sabine 1, ne sw 6-7-11, sp 10-in 103 ft dr shale 1955 ft; Sabine 2, ne nw 14-7-12, lcn.

TENSAS PARISH—Seip et al's Fowler 1, 10-10-10e, dr green shale 815 ft. A. R. Willis' Curry 1, sd 2780 ft.

WEBSTER PARISH—Girhig Co.'s Fee 1, 16-18-10, materials. D. H. Coyle, Tr.'s Frazier 1, ne se 27-23-11, dk.

WEST CARROLL PARISH—Ark. La. P. L. Co.'s Griffith 1, ne nw 17-22-10, 10-in cas 1301 ft dry ab ntd 3005 ft.

MISSISSIPPI

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2s-7e, fsh td 2735 ft.

ATTALA COUNTY—Ark. La. P. L. Co.'s Moore 1, se nw 2-15n-5e, dr Wilcox rock 1534 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-5e, elev 270 ft 13 3/8 cas 1398 ft, dr quartzite 2100 ft.

COVINGTON COUNTY, (Collins Dist.)—Miss. Gulf O&G Co.'s Fee 1, 36-8n-16w, lcn.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 30-13-3, driving 8¼-in cas 1534 ft.

GRENADA COUNTY—Carter Oil Co.'s Dubard 1, nw nw 18-22-4e, dk.

HINDS COUNTY, (Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, sw nw 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, sw nw 3-5-1e, dk. Love Pet. Co.'s Morton 1, sw sw 34-6-1e, 15½ cas 47 ft wo. Maley 1, se nw 15-5-1e, elev 257.3 ft top Midway shale 2387 ft top Midway chalk 2487 ft 6⅝ cas 2487 ft, made 13.1 grav oil and sw by heads wosr td 2495 ft. Miss. Tex. Oil Co.'s Negro Fair Assn 1, nw se 28-6-1e, sd wo acct bad seat 6-in cas at 2379 ft top Midway shale 2420 ft. Tri-State O&G Co.'s Wilson 1, se ne 23-6-1e, dk. Universal O&G Co.'s Holliday & Ross 1, nw sw 8-6-2e, ta 2653 ft. Sharbrough 1, sw se 28-6-1e, 10-in cas 88 ft, wo. Miss. Pet. Co.'s Solvent 1, sw sw 14-5-1w, sd wo at top of rock 2710 ft. Baptist Orphanage 1, se se top Midway shale 2422 ft wo cas td 2475 ft. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, elev 269.6 ft top Midway shale 2375 ft top chalk 2474 ft set 4½-in cas 2480 ft, td 2480 ft. Howard Oil Co.'s Jackson College 1, nw nw 9-5-1e, rig. Atkinson et al's Wiggins 1, nw ne 33-6-1e, dk. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Gulf Ref. Co.'s McLaurin 1, sw ne 30-6-2e, 12½-in in blue gummy shale 820 ft, dr rock 1636 ft. Cans River O&G Co.'s Kabbes 1, ne sw 15-5-1e, top Midway shale 2435 ft top chalk 2541 ft set 7-in cas 2541 ft, elev 262 ft td 2548 ft.

JASPER COUNTY, (Bay Springs Dist.)—Bay Springs Pet. Inc.'s J. H. Keys 1, nw ne 21-2n-10e, dk.

KEMPER COUNTY (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LAFAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rig up wo.

MADISON COUNTY, (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, set 12½-in cas in blue gmbo 706 ft wo.

MONROE COUNTY, (Amory Dist.) — Amory Dev. Co.'s Bourland 1, 2-13-19, sd in brown sand 3007 ft. P. J. McAlpine's Cowart 1, 2-12-19, dr 330 ft. Associated Royalties' School Board 1, 16-15-17w, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, dk. Carter 3, se se 7-13s-17w, 10-in 564 ft dr hd sandy limestone 774 ft.

RANKIN COUNTY, (Jackson Dist.)—Feazel O&G Co.'s Cox 1, 12-5-1e, dk. Sabine O&G Co.'s Rankin Dev. Co. 1, sw ne 6-5-2e, elev 273 ft sp. Gulf Ref. Co.'s Hamilton Est 1, sw sw 4-5-2e, elev 284 ft top Midway shale 2537 ft, top Midway chalk 2620 ft, tested 1800 ft, sw at 2626 ft, cor chalk 2718 ft, 9-in cas 2610 ft. Love et al's Muse 1, se se 32-7-4e, dk.

From End to End

the Trimo wrench is made according to your specifications

PLENTY of Trimo wrenches are bought and used by people who never saw an oil well except in the movies. But we make every Trimo according to oil field requirements, no matter if it is destined to work on a pipe line or a kitchen sink.

TRIMO is and always has been the oil man's wrench. Only his excessive demands can justify the heat treated drop-forged steel handle, the mighty steel frame braced against distortion, and the long wearing replaceable jaws.

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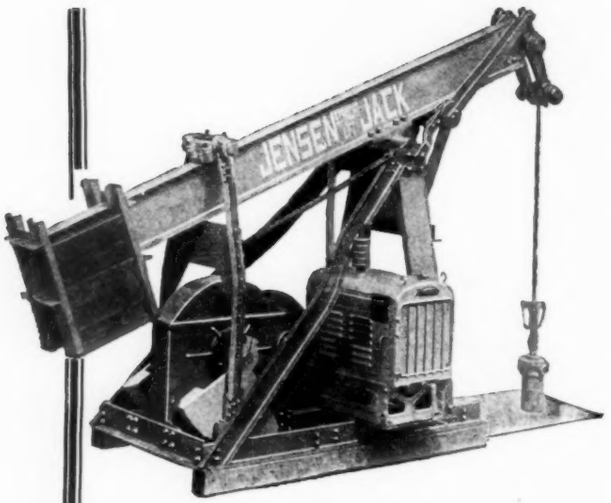
ALL STEEL TRIMO PIPE WRENCH

TRIMO Handle drop forged - - - not cast TRIMO

Made by Trimont Mfg. Co., Roxbury (Boston), Mass.



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(Interchangeable)

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DON'T install pumping equipment that will be obsolete when electricity is wired to your field. Get the low-down now on Jensen Jacks equipped with Gas Engines that are interchangeable with Electric Motors when the time comes.

These Gas-Engine equipped Jacks are identical in construction with our Electric Jacks. Double-Strength, double-drive pitman which eliminates all side thrust and vibration. Gears in a bath of oil. Timken, Hyatt and S. K. F. bearings. Shafts and pinions of S. A. E. steel. Weather-proof,—no house required. Standard equipment with many of the big producers. Used around the world. See Composite Catalog, or write for literature.

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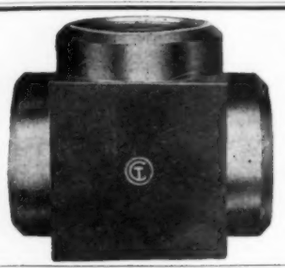
ELECTRIC, GAS AND POWER DRIVEN
JACKS



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Nickel Steel Forgings, finest quality. Sober, experienced mechanics who know what it's all about. Real machines, that turn out accurate work. Hydraulic testing under full rated pressure. No scrimping, no short-cuts, no mistakes.

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924 ADELLE ST. HOUSTON, TEXAS

Pioneer O&G Co.'s Graves 1, nw se 12-5-1e, top Midway shale 2301 ft 6⅝-in cas od in shale 2383 ft. Wallace O&G Co.'s Cobb 1, se ne 12-5-1e, elev 269.6 ft sp 12½ cas 83 dr 1600 ft. Southern Pet. Co.'s Ivy 1, ne sw 12-5-1e, elev 270 ft dk. Love Pet. Co.'s Moore 1, se nw 28-6-2e, sd 900 ft.

WARREN COUNTY, (Vicksburg Dist.)—Dixie Pet. Co.'s Clark 1, sw sw 31-17n-5e, dk. Vicksburg O&G Co.'s Dornbusch 1, sw ne 8-18n-5e, sd 1350 ft in gmbo.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY, (Louisville Dist.)—Mississippi Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, dr 1248 ft.

ALABAMA

Completion

LAUDERDALE COUNTY—
P. J. McAlpine, O'Neal Hrs. 1, 8-2s-13w . . . . . * 2525

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary td 3100 ft.

LAUDERDALE COUNTY—P. J. McAlpine's O'Neal Hrs 1, 8-2s-13w (A. D. Morton owner, McAlpine dr contr), sw abn in white limestone td 2525 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1. 6-6-4, fsh cas 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft; Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, sd 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, dr hard lime 2005 ft.

OKLAHOMA

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, hfw 7160-7280 ft, td, pb shot 100 qts 5080-5100 ft, 3500 ft water in hole, pb to 4885 ft, shot, now drlg bridge.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mumner et al, Sornick 1, nw c se, rig. T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw nw sw, shot 10, 20, 40 qts 3587-97 ft, pump 15 bbls.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, show oil and water 5215-18 ft, fsh 5864 ft.

KAY COUNTY — T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, sd 1775 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne sw, slight show oil 7161-73 ft, 7795 ft rig up 3-inch drill pipe.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, td 6104 ft, dry and aban.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, lost tools, sd 5640 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, sd 4660 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, dr 5825 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minks 1, nw c sw, dr 2600 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, hfw 4150-60 ft, run 6-inch co.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey & Consolidated Drlg. Co., Quier 1, se c sw, sd 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw c ne sw, sand 4918-42 ft, flowed 680 bbls, averaged 380 bbls. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, td 5306 ft, to run 4-inch tools. T 17n, R 1e, Sec. 22, Slick & Prairie, Sims 1, ne c sw se, hfw 5165-5233 ft, td, dry and abn.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault-Brown, Boch 1, c nw se (owdd) dr 7022 ft. T 15n, R 5w, Sec. 23, Prairie & Slick, Wright 1, c nw sw, dr 6300 ft.

OSAGE COUNTY—T 28n, R 7e, Sec. 4, L. G. Stanley et al, 1, se c sw, moving in machine.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie

ALL *the way* DOWN *with* SPENGLER TOOLS!

Ross No. 1, Oklahoma City Field
Drilled and Owned by Oils Incorporated

Oils Incorporated famous Ross No. 1 —the world's largest high gravity oil well—was drilled "all the way" ..."at a substantial saving in material costs due to the perfect performance of SPENGLER TOOLS!"

OILS INCORPORATED
821 Transportation Natl. Bank Bldg.
OKLAHOMA CITY, OKLAHOMA

October 26, 1930

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Oklahoma City, Oklahoma.

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In reply to your inquiry as to equipment used on our Ross No.1, which made at an estimated rate of 140,000 barrels per day, we used Spengler Tool Joints, Sprocket Chain, Pump Liners, as well as Spengler Rock Bits, Rock Bit Cones and Side Reamers.

In using your product, we were able to make a substantial saving in material costs in drilling this well, due to perfect performance of your equipment which we recommend to anyone using Rotary Tools.

Very truly yours,
OILS INCORPORATED
By G. S. Smith

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SPENGLER TOOL CO.
ROTARY DRILLING TOOLS

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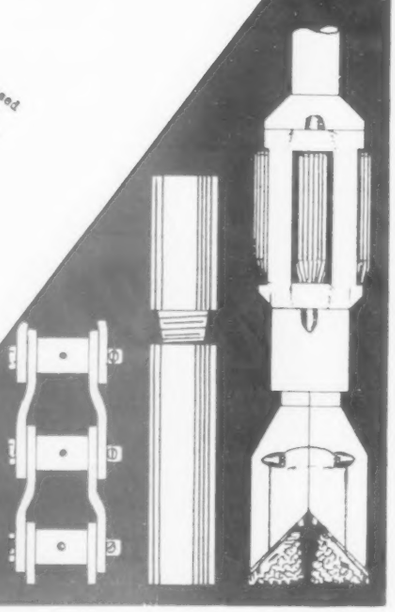
OKLAHOMA CITY



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1, se c sw ne, dr 3078 ft. T 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, dr 600 ft. T 20n, R 5e, Sec. 1, Flynn, Morgan et al, Freeman 1, nw c, dr 3640 ft.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic, Beebe 1, sw c ne sw, lcn.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 3, Tulsa Oil Co. et al, Davis 1, se nw sw, hfw 2765-80 ft, dr 3375 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, Wilcox 4124-57 ft, water, sd. T 12n, R 10e, Sec. 3, Shepperd et al Sheppard 1, se nw sw, sd 3690 ft.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, F. Mills et al, Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, dr 5576 ft. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig. T 7n, R 13e, Sec. 18, Apex Oil Co., Walker 1, nw c se, dry and aban, td 1600 ft.

OKLAHOMA COUNTY — T 14n, R 3w, Sec. 32, Mid-Kansas, Messer 1, sw c, shot 90 qts 6690-6760 ft, shot 170 qts, flowed 425 bbls, shut in. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph Orphanage 1, sw ne sw se, sd 6700 ft, td.

McCLAIN COUNTY—T 7n, R 2w, Sec. 22, Prairie & Slick, Perkinson 1, swc nw, dr 5080 ft.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft, slight show oil and water, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, dr 3968 ft, show oil and gas.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 14, C. F. McGee et al, Eckridge 1, se c nw, lcn.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady, Kanard 1, nw c sw, sand 4468-4506 ft, td, hfw, pb 3540 ft, dry and abn.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 19, Droppleman & Burke, Fundis 1, se c ne, dr 4285 ft. T 6n, R 5e, Sec. 5, Robinson & Hicks, Crouch 1, nw c sw, dr 4005 ft.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 9, Neal & Milton, Thomas 1, nw c ne sw, dry and abn, td 3035 ft.

HUGHES COUNTY—T 6n, R 9e, Sec. 20, Gilcrease Oil Co., Deere 1, ne c sw, dr 780 ft.

ROGER MILLS COUNTY—T 13n, R 21w, Sec. 10, Richfield O&R, Hiatt 1, se c, rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 18, J. J. Wright & Shell, Boys 1, ne c lcn.

GREER COUNTY—T 7n, R 22w, Sec. 1, Roy Good et al, Cliffel 1, nw c, sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murphy 1, sw nw se, show gas 600 ft, sd.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms & J. R. Wrightsman, Cobza 1, sw c nw, coring 3706 ft.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex Oil Co., Headley 1, ne c, sd 2593 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, se c ne, sd 4275 ft. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, sd 1645 ft.

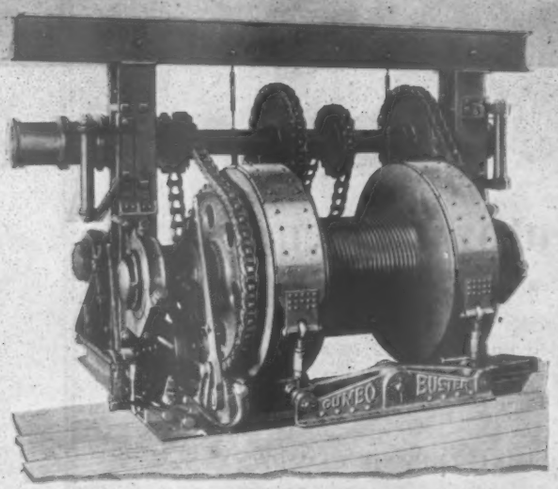
COAL COUNTY — T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, dr 4910 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, show gas 360-72 ft, dr 500 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla. Drlg. Co., Anderson 1, c se ne se, dr by pipe 2400 ft, td 2580 ft.

LOVE COUNTY — T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, C. P. Bush, Commerce Trust Co., ne c, sd 600 ft. T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne c se sw, sd 475 ft.

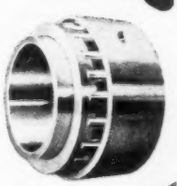


Front and rear views of the Gumbo Buster Heavy Duty Draw Works. Weight 24,150 lbs.—4 speed. Built by AMERICAN WELL AND PROSPECTING COMPANY.

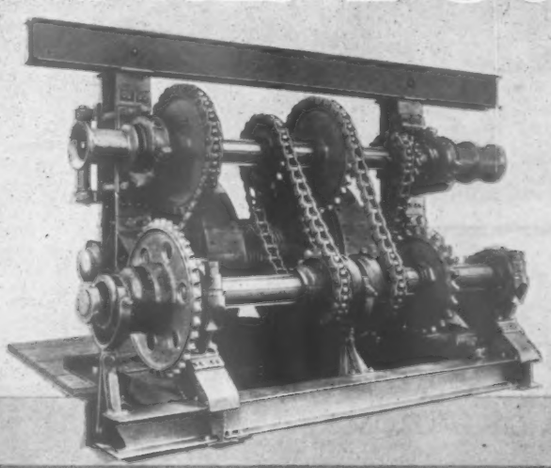
THE DEPENDABLE DRAWWORKS BEARING

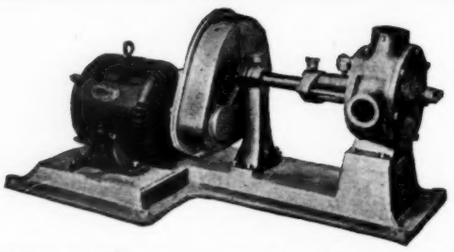
Bigger and better applications of American Roller Bearings are being announced regularly by manufacturers of oil field equipment designed for heavy duty. This Heavy Duty Drawworks is a typical example of the dependence placed in American Bearings. Like all American Well and Prospecting Company equipment of heavy duty character, it is adequately equipped with "the standardized heavy duty bearings of the oil fields."

AMERICAN ROLLER BEARINGS



AMERICAN HEAVY DUTY





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APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

KANSAS

STEVENS COUNTY — Liberal Gas, F. Boyles 4, c n½ ne, 4-35-34w, 12-inch 500 ft, sd 2600 ft.

SUMNER COUNTY—Davidson et al, Strickland 1, sw se 12-34-1w, rig.

MORTON COUNTY — Hydraulic Oil Co., State land 1, nw se, 22-34-43w, td 3460 ft, ur 5-inch.

HARPER COUNTY—Atkinson et al, Misak 1, se c 25-32-6w, 8-inch 4635 ft, co.

SUMNER COUNTY—Disney et al, Foy 1, c e½ se 14-34-1w, rig.

STEVENS COUNTY—Western Prod., Fee 4, c ne, 6-33-36w, 4M gas, rebldg rig after fire.

SUMNER COUNTY—Magnolia, Shriner 1, nw sw, 9-33-2e, base L. 3645 ft, sd 3660 ft.

STEVENS COUNTY — McNabb & Mid-Kansas, Rinehart 1, c ne, 23-32-30w, ru. Argus Gas Co., Ponder 2, c nw, 10-32-38w, 8-inch 2470 ft, r.u.s.t. Western Prod. Co., Ponder 1, c ne, 10-32-38w, 8-inch 2495 ft, sd 2695 ft.

COWLEY COUNTY—Tom Fine, Boyd 1, nw ne, 32-32-4e, 12-inch 1265 ft, sd 2650 ft. Roth and Faurot, Reidy 1, c sw nw ne, 8-32-4e, td 912 ft, fsh blr.

HARPER COUNTY—Beeker et al, Bear 1, c ne, 21-31-6w, td 1830 ft, sd.

KIOWA COUNTY—Phillips-Prairie, Bean 1, ne se 10-30-17w, 3950-55 ft, hfw 4115 ft, dr 4775 ft.

BARBER COUNTY—Allison & Fitzwilliams, Kumberg 1, c se sw se, 2-30-12w, td 4136 ft, St., ream 8-inch.

GRANT COUNTY—McKenna et al, Sullivan 1, ne c 12-29-28w, 8-inch 2435 ft, r.u.s.t.

SEDGWICK COUNTY—Buck et al, McNaaman 1, c ne nw nw 2-20-1e, rig.

ELK COUNTY—Alladin, Donnell 1, ne se sw, 26-29-10e, Wilcox 2386-2411, so, sd.

KIOWA COUNTY—McKenna et al, Ralston 1, c ne, 14-28-22e, ru sd.

SEDGWICK COUNTY—Branson et al, Kincaid 1, se nw nw, 4-29-1e, spd and sd.

BUTLER COUNTY—Farrell et al, Sutter 1, nw c 18-28-7e, sd 1100 ft.

KINGMAN COUNTY—Skelly, Miles 1, ne c 30-27-10w, td 2027 ft, rng 10-inch.

SEDGWICK COUNTY—Streeter & Stearns, Tobin 1, c sw se ne, 5-27-2e, dr 1327 ft.

GREENWOOD COUNTY—F. Konkay et al, Rook 1, nw ne ne 7-27-12e, td 1836 ft, sd.

PRATT COUNTY — Wilcox, Unknown 1, sw nw 7-26-15w, td 4395 ft, hfw, csg trbl.

FORD COUNTY—Swain et al, Kenthorn 1, c nw, 21-25-24w, 6-inch 3775 ft, sd 4300 ft.

RENO COUNTY—Shell et al, Popp 1, nw c 11-25-5w, td 3580 ft, 1900 ft water in hole, co.

GREENWOOD COUNTY — Staats et al, Swan 1, ne nw 3-25-12e, spd and sd.

BUTLER COUNTY—Empire & McCullogh, Lilley 1, c sw nw nw, 23-23-5e, td 2217 ft, ur 6-inch.

RENO COUNTY—Alco Royalty Co., Kinney 1, se c 16-22-7w, dr 3670 ft. Braden et al, Theisen 1, se ne 6-22-4w, 8-inch 2914 ft, sd 3380 ft.

MARION COUNTY—Maidwell, La Master 1, nw c, 31-22-4e, ru.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se, 30-22-14e, 10-inch 818 ft. McGreggor et al, Wood 1, c ne nw sw 20-22-15e, sd 650 ft. Roberts et al, Hay 1, sw se nw 32-22-15e, dr 1250 ft.

RICE COUNTY—United Pet. Co., Wellman 1, ne c 29-21-9w, 6-inch 3102 ft, td 3157 ft, co.

PAWNEE COUNTY—Phillips, Cuthberson 1, c ne 27-20-18w, dr 3075 ft.

BARTON COUNTY—McCool et al, Tsern 1, c sw se ne 12-20-11w, 12-inch 900 ft, sd 1600 ft.

RICE COUNTY—Skelton Oil, Ott 1, c se se, 16-19-14w, td 125 ft, csg trbl. Muth Bros., Beyers 1, ne nw 21-19-9w, td 1178 ft, rng 12-inch.

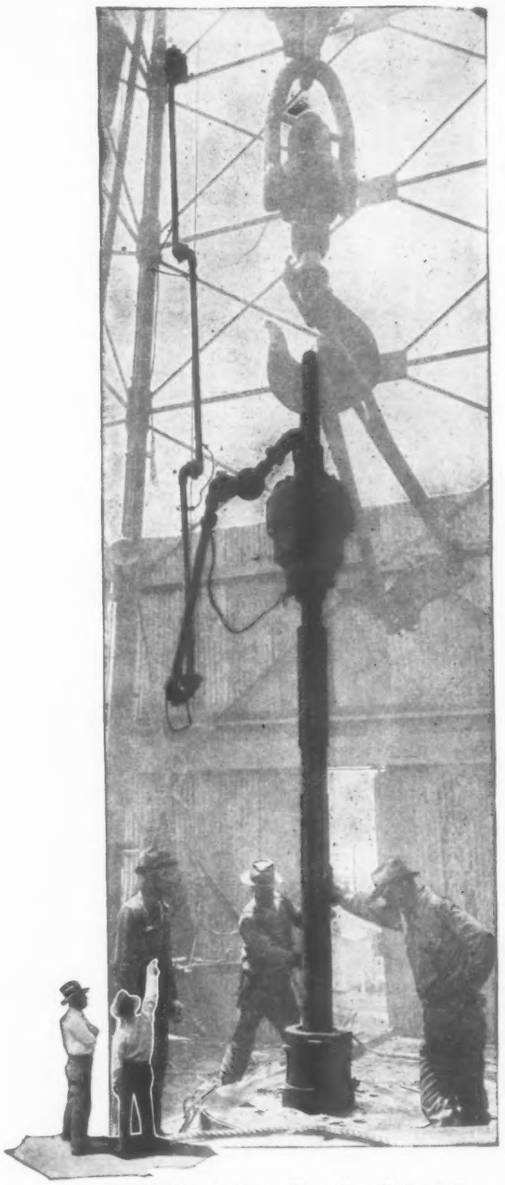
McPHERSON COUNTY — United Pet. & Shell, Kaegi 1, ne c, 20-19-1w, lcn. Henderson & Holden, Sommerfield 1, c ne sw 23-19-1w, dr 600 ft.

MARION COUNTY—Marshall et al, Higgens 1, ne c 33-19-5e, rig.

LYON COUNTY—Griffith et al, King 1, nw c 8-19-10w, 12-inch 910 ft, sd.

RUSH COUNTY—Syndicate Oil, Tannen 1, c sw 11-19-16w, dr 525 ft.

RICE COUNTY—Streeter & Stearns, Blake



California Type Champion All-Steel Rotary Hose. Only 5 joints are used in this assembly. Gulf-Mid-Continent Type uses 7 joints.

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Strength—Flexibility Durability and

·SAFETY·

RELATIVELY as light, flexible, easy to handle, and well-hanging as any rubber hose — yet immeasurably stronger and more durable—Champion All-Steel Rotary Hose is fast supplanting all other types in general favor for high-pressure drilling.

It absolutely safeguards you against all the serious hazards of blowouts, leaks, breaks, or hose-failures of every kind, eliminating losses in time, labor and production.

Champion Hose is the pioneer all-steel rotary hose—the first, and likewise, the best.

Send for Bulletin No. 202.

NIKELADIUM STEEL CONNECTIONS

Champion All-Steel Rotary Hose parts subject to extra wear are made of NIKELADIUM STEEL—a metal having more strength per square inch than any other alloyed steel of this type, an exclusive Champion feature—used and controlled entirely by ourselves.

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Champion
ALL-STEEL
ROTARY HOSE

1, ne nw, 9-18-10w, lcn. Jasper & Beschka, Cupp 1, sw ne 22-18-9w, td 3205 ft, ur 6-inch.

McPHERSON COUNTY—Alladin Pet., Larson 1, c nw, 22-18-4w, rig.

MARION COUNTY—Alladin Pet., Rudolph 1, nw ne 36-18-3e, dr 200 ft.

McPHERSON COUNTY—Slick et al, Sandell 1, c sw sw, 35-17-3w, spd and sd.

MORRIS COUNTY—Urchell et al, Bersuch 1, c nw se nw 10-17-7e, ru.

RUSH COUNTY—Prairie, Leiker 1, c nw sw sw 5-16-13w, T. granite 3643 ft, td 3759 ft, sd.

ELLSWORTH — Alladin & Marland, Barecky 1, c nw, 3-16-10w, dr 2470 ft. Alladin et al, Stoddenberg 1, c sw, 22-15-10w, ru and sd.

MORRIS COUNTY—Urschell et al, Scott 1, ne sw 6-16-6e, sd 2420 ft. Hankenson et al, Sessnum 1, sw se 24-16-9e, rig.

RUSSELL COUNTY—Empire, Sherwood 1, c se nw nw 21-14-13w, 8-inch 2393 ft, dr 3165 ft.

ELLSWORTH COUNTY — Milton et al, Kester 1, se ne 6-14-19w, sd 330 ft.

SALINE COUNTY—Sampson et al, Suderorf 1, ne se 30-14-2w, rig.

OSAGE COUNTY—Riggs-Smith, Wood 1, c se nw, 31-14-15e, sd 410 ft.

DOUGLAS COUNTY — Steinbushel et al, Unknown 1, sw ne nw 34-14-21e, td 1110 ft, sd.

GOVE COUNTY—Valerius et al, Todd 1, nw c 24-13-27w, 6-inch 4174 ft, 4460-65 ft, 800 ft water in hole, fsh blr.

RUSSELL COUNTY — Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, sd 2740 ft.

SALINE COUNTY—Twin Mounds Oil Co., Weis 1, c w½ ne nw, 30-13-4w, td 2500 ft, sd.

DICKINSON COUNTY—Severs et al, Livingood 1, ne sw 13-13-2e, td 2777 ft, ur 6-inch.

GOVE COUNTY — Johnson & Atlantic, Wright 1, c se ne 11-12-27w, 13-inch 1790 ft, dr 2455 ft.

PAWNEE COUNTY—Central Commercial, Helms 1, se ne 2-12-20w, td 3916 ft, co.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne, 33-11-13w, sd 2155 ft.

ROOKS COUNTY — Streeter & Stearns, Conger 1, c se nw ne, 16-10-16w, dr 3218 ft.

GRAHAM COUNTY — Schleimeyer et al, Clark 1, c sw ne ne 11-9-25w, dr 1700 ft.

CLAY COUNTY—Nebraska Oil, Tivier 1, sw c 19-8-3e, sd 2390 ft.

MARSHALL COUNTY—Swicker & Simcox, Remple 1, c nw nw 22-4-9e, dr 1295 ft.

WASHINGTON COUNTY—Simcox, Penwell 1, nw se ne 16-3-3e, dr 1620 ft.

RAWLINS COUNTY—Danciger et al, Unknown 1, sw c 3-2-35w, dr 1505 ft.

MARSHALL COUNTY — Balzier et al's Runkel 1, se nw 13-2-6e, spd and sd.

NORTHERN CALIFORNIA

Completion

PORTERVILLE—

Rayatt Oil Co.'s Hinshaw 1, 34-22-27 * 1085

KERN COUNTY

BELRIDGE—General Pet.'s Berry 1, 30-28-21, dr brown shale 2855 ft. Ohio's Bloemer 1, 36-27-20, dr 150 ft. Reward Oil Co.'s Associated 1-A, 34-27-20, rigging up. Richfield's Belridge 1, 22-27-20, dr Temblor zone 5800 ft. Standard's McPhail 1, 36-27-20, rig. The Texas Co.'s Martin 1, dr shale 616 ft. Union's Bacon 1, 27-28-20, lcn. K. C. Wallace's No. 1, 32-29-21, dr hard brown shale 3812 ft.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 1, 20-31-24, dr shale 3607 ft. Midland Exploration Co.'s No. 1, 34-31-24, lcn.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1, 7-29-24, dr shale 5160 ft. Superior's KCL-1, 32-29-25, lcn.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, dr 1025 ft.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr shale 3340 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, cored shale and streaks oil sand 4870 ft, fsh for drill pipe.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr out cmt, td 4176 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, coring 7659 ft.

SHALE HILLS—Rio-Cal Pet. Co.'s No. 1, 2-27-18, dr shale 2313 ft.

WEED PATCH—Mohawk Oil Co.'s Wharton 1, 32-30-29, dr shale and sand 2616 ft. Shell's Porter 1, 29-30-29, dr shale 1830 ft; Porter-Day 1, 29-30-29, dr shale 5965 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Augur Permit 191-1, dr shale 3338 ft.

GATO RIDGE—Barnsdall's Tegnazzini 1, 9-8-32, fsh for drill pipe 5245 ft.

GOLETA—General Pet's More 3, dr shale 2800 ft. George W. Johnson's Duncan 1, re-dr 3775 ft, old hole drilled to 3970 ft.

LOS ALAMOS—N. S. Wilson's Midwest 1, 2-7-33, 15½-inch cas re-cmt 1410 ft, td 1502 ft.

NAPLES—J. H. Cochran's No. 1, 7-4-29, dr Pyrite zone 4462 ft.

ORELLA—General Pet.'s Erburu 8, dr shale 2988 ft; Erburu 9, lcn; Erburu 10, grading for rig.

POINT CONCEPCION—Standard's Gerber 1, fsh for drill pipe 6670 ft.

PURISIMA — Vaqueros Major Oil Co.'s Union Annex 2, 6-7-33, pumping mud and oil, td 3401 ft; Union Annex 3, dr 1100 ft; Union Annex 4, lcn.

SANTA MARIA — O. C. Fields Gasoline Co.'s Broadley 1, 8-9-33, dr out cmt below 6⅝-inch cas at 5025 ft, td 5267 ft. Western Gulf's Brodley 1, 5-9-33, dr shale 4650 ft.

VENTURA COUNTY

HOPPER CANYON—Rio Grande Oil Co.'s Lankershim 1, 13-4-19, dr out cmt, td 1820 ft.

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s No. 1, 32-8-21, dr shale 200 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24m 7441 ft, td 7521 ft, well produced oil on compressor at 7380 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe, td 5670 ft.

SANTA PAULA—California Republic Corp.'s Chimes-Darlings 1, 23-4-21, rig, sd. George C.

Grant Box Type "Endurance" Bit

it's ENDURANCE that counts

UNDERREAMERS

LINER PULLERS

CEMENT HEADS

STRAIGHT HOLE GUIDES

SAFETY AUTOMATIC PRESSURE RELEASE

A football team must have *endurance* to win games. Bits must have *endurance* to dig hole rapidly and economically.

Grant "ENDURANCE" Bits are designed and built to withstand terrific drilling strains and dig fast at lowest cost. The Box Type bit (shown at left) shears away the formation with a keen cutting edge because cutters are set at a correct angle. The sheering action reduces abrasion and provides increased footage in less time. Two stabilizing cutters add greatly to the cutting edge and provide surprising smoothness of operation when drilling. This feature, combined with long reaming edges, assists in drilling straight hole. The cutter heads run on a special sub and may be removed for building up or can be economically discarded.

A stabilizing blade in the Grant Renewable Cutter Type bit (shown at right) increases the cutting edge and provides, smooth, fast drilling. Renewable cutter is a single member bolted in place through a heavy, slotted shank. Lighter cutter blades provide new economies in large size bits, yet assure large factor of safety under hardest conditions. Weight of pipe *does not* rest on assembly bolts, but is carried by the shoulders of the cutters.

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Grant Renewable Cutter Type "Endurance" Bit

USED WHERE PERFORMANCE COUNTS

Thompson's No. 1, 15-4-21, making production test, td 2355 ft.

SESPE—Merchants Pet. Co.'s Cochran 1, 1-4-20, rigged to sp. Superior's Kirtlan 1, 15-4-21, dr hard shale 2590 ft.

SOUTH MOUNTAIN* — Ring Pet. Corp.'s Converse 1, will deepen from 4910 ft.

VENTURA—Prairie Oil and Gas' Sexton 1, 30-3-22, 9-inch cmt 7327 ft, td 7518 ft.

MISCELLANEOUS

FRESNO COUNTY—Petroleum Securities Co.'s Gatchell 1, 28-20-16, lcn, may not drill. Carruthers Oil and Land Co.'s Barritt 1, 4-17-20, rigging up. Associated's Jacalitos 1, dr shale 2200 ft.

KINGS COUNTY — Knudsen and Smith's No. 1, 36-23-17, rig. Kettleman Lakeview Oil Co.'s No. 1, 11-23-19, fsh for tubing, td 972 ft. Murphy Oil Co.'s Brennan 1, 20-23-20, dr shale and hard sand 866 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 5033 ft.

MONTEREY COUNTY—Standard's Piedmont 1, 23-22-7, sr 5656 ft.

SAN LUIS OBISPO COUNTY — Paso Robles Synd.'s Emerick 1, 34-27-11, running 6⅝-in cas, td 3910 ft. Firemans Oil Co.'s Carpenter 1, 13-32-13, rigged up to sp. Continental's Hellman 1, 26-25-11, 20-in cas smt 511 ft. Latin American Oil Co.'s Whitley 1, 31-27-15, running 6⅝-in liner to test, td 4505 ft. Texas Pacific Coal & Oil Co.'s No. 1, 25-32-14, fsh for drill pipe 4430 ft.

TULARE COUNTY — Enterprise Oil Co.'s Dennis 1, 29-23-28, dr shale and slate 675 ft. Kettleman East Side Trust's No. 1, 21-22-27, sr 890 ft. Paul M. Lewis' No. 1, 15-22-27, pumping water, td 1115 ft, will plug back. Miller and Sylvan's No. 1, 11-23-27, dr shale 1028 ft. Roetner Oil Co.'s No. 1, 34-22-27, dr hard shale 1266 ft. Terra Bella Drilling Co.'s Rusling 1, 34-22-27, co to bottom, td 925 ft. Turk and Campbell's Nevins 1, 34-22-27, plugging back from 1375 ft. Western Oil and Exploration Co.'s Gardiner 1, 35-22-27, pumping few bbls oil and 275 bbls water, td 1022 ft. Inland Valley Oil Co.'s Smith-Rea 1, 24-17-24, sr 2060 ft.

SOUTHERN CALIFORNIA

LA HABRA—
Union's Sansinena 11 ..... * 5200

ATHENS—McKeon Oil Co.'s No. 1, rigging up rotary.

BELL—Cudahay Community Oil Assn.'s No. 1, rigging up. Western Gulf's Abacherli 1, dr hard sand 675 ft.

CULVER CITY—Taylor Oil Co.'s No. 1, new lcn.

FULLERTON—Standard's Bastanchury 1, dr hard shale and sand 7085 ft.

HERMOSA — California-Ventura Oil Co.'s Sadler 1, dr out cmt below 8¼-inch cas, td 2518 ft; Westwood Pet. Co.'s No. 1, rig. George Wolfe's Hermosa 1, 4th and Ardmore streets, new lcn.

NEWHALL—Consolidated Oil Co.'s Hammond 1, co 2230 ft. Dudley-Newhall Synd.'s No. 1, co 1810 ft. Section 31 Oil Co.'s Farrier 1, dr hard sand 2020 ft. Southern California Drilling Co.'s Needham 4, plugging back from 3500 ft to test shallow sand. York and Smullin's Clampitt 5, sr 985 ft to cmt 11¾-inch cas.

NEWPORT — Standard's Irvine 1, coring 2718 ft.

PLAYA DEL REY — Olympic Oil and Realty Co.'s No. 1, dr shale 4528 ft. West Port Pet. Corp.'s No. 1, co 4800 ft.

POMONA—Lamona Oil Assn.'s No. 1, dr granite 973 ft.

PUENTE—Bardeen Pet. Corp.'s Barnadette 1, rigging up. Rio Hondo Pet. Co.'s Rowland 1, will put on pump, td 3725 ft. C. F. Shannon's No. 1, 3-2-10, 6⅝-inch cas cmt 4620 ft. Vega Pet. Corp.'s Rowland 1, rig.

SAN FERNANDO—Shell's Andrews 1-1, dr gray sand 5599 ft.

SANTA FE SPRINGS—Union's Orchardale 1, dr shell and shale 5705 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr brown shale 4735 ft.

ARKANSAS

UNION COUNTY—
H. L. Hunt, Inc., Trammell 1, 28-18-12 ..... * 4365

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, dr 2924 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Under-

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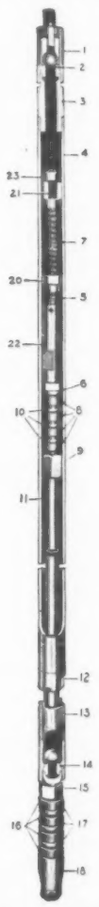

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19—Steel Reversing Ring
20—Steel Reversible Follower
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22—Steel Valve Connection or Guide
23—Steel Reversible Bottom

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wood 1, nw se 4-20-8, 10-in cas 303 ft, dr 330 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-19, fsh bailer on bottom td 3640 ft.

COLUMBIA COUNTY—J. W. Olvey et al's Kate George 1, nw sw 19-18-20, dr 2400 ft.

GARLAND COUNTY—H. H. Given's Garret 1, 1-3n-19w, dr lime 3779 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s Cunningham 1, 11-5-16, sd 100 ft. Cleary Bros. et al's Hinson 1, 19-4s-16w, dr hard gray lime 1375 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Kelly 1, sw se 14-10-24, dr shale 2300 ft. Hudson 1, se se 14-10-24, dr 1370 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-in cas 2100 ft, td 5600 ft. River Valley Dev. Co.'s Collier 1, se se 21-9n-25w, lcn.

LA FAYETTE COUNTY—Crawford Drlg. Co.'s Vaughan 1, 25-19-25, rig up. McIver et al's Hattle 1, nw ne 1-20-26, sp sd 20 ft.

LAWRENCE COUNTY—Marguerite Dev' Co.. Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2050 ft.

LOGAN COUNTY—Ark. La. P. L. Co.'s Jno Jansen 1, ne ne 35-8-24, sp. M. W. Greeson's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-in cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 2, cent. sec 17-16-26, dr 295 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, set 6⅝-in cas 2792 ft, set short string 4½-in cas 4 ft sand td 2951 ft. Lentz et al's Johnson 2, 24-15-26, coring 3100 ft. Johnson 3, ne nw 24-16-26, dr 900 ft. Bullock Oil Co.'s Hervey 1, 2-15-26, dr 1400 ft. East Texas O&G Co.'s Hervey 1, 2-15-26, sd wo 8-in cas 900 ft. O'Mara et al's Person 1, 31-15-25, lcn. Fitzwater et al's Beck 1, sw se 33-15-26, 10-in cas 85 ft wo. Salzer & McRae's Rose 1, ne nw 9-16-26, 10-in cas 98 ft dr 300 ft.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, top red beds 2765 ft fsh bit and collar td 2907 ft. A. B. Turner, Tr.'s Brown 1, 23-15-18, set 10-in cas 123 ft dr 1100 ft, (sec hole). Graves et al's Walker Tr. 1, sw sw 9-14-18, top Nacatosh 1352 ft, set 6⅝-in cas 1845 ft, sandy oil shale 1869-73 ft, pumping with small floor unit 50 bbls fluid 90 per cent sw td 1873 ft. Copenhaver et al's Elliott 1, se se 11-15-17, dr 1400 ft.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr pyrites 1800 ft. E. R. Henderson's Lee 1, sw se 31-8s-24w, dk.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, 13⅜-in cas 1900 ft, dr 2160 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, dr 1536 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, tested sw wo td 3515 ft. Lavaca O&G Co.'s Davis 1, nw ne 29-8-30, 8-in cas 200 ft, dr 1950 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, top Graves sand 2351 ft, dr 2530 ft (corrected depth). Marine Oil Co.'s W. B. Thompson A-5, sw ne 10-18-13, dr 2040 ft. P. Winn Est. F-1, 10-18-13, hole full fluid 50 per cent sw wo electric unit to pump, set 6⅝-in 3595 ft, td 3604 ft. Oilfelds Corp.'s J. A. Simmons 1, nw nw 13-18-13, dr 3284 ft. Rice et al's Whaley 1, 7-17-15, dr 1180 ft. Malloy & Co.'s Burns 7, nw nw 31-17-15, set 8¼-in cas 2148 ft, pulling tubing td 2213 ft. J. E. Crosbie, Inc., et al's G. L. Murphy 1, 13-16-16, pumping oil & sw wo gauge 5 ft sand 2735-40 ft, td 2740 ft. H. L. Hunt, Inc's Swilley 5, ne ne 28-16-16, set 6⅝-in cas 2678 ft, 2000 ft oil trace sw hole wosr td 2698 ft. Swilley 6, se se 21-16-16, rig up. J. E. Trammell 1, sw nw 28-18-12, iunked abn td 4365 ft, (second completion).

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, dr 1200 ft. Lincoln Lease Holding Synd's Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, sd while fsh tools td 5710 ft.

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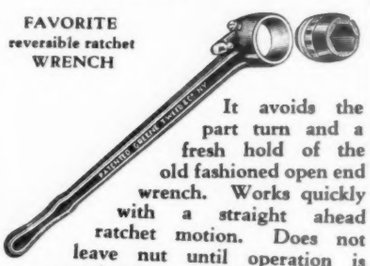

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Write for particulars

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LETTERS

Dear Mr. Leigh:

Your article in "THE OIL WEEKLY" of August 15 reached my table duly. I think you have been flattering my person too much, but the whole field is certainly grateful for the fact that at last an article has appeared in one of the big American periodicals that gives a proper insight as to the modern spirit and methods applied.

Allow me to put two minor details aright.

On page 30, second column, you wrote: "but steam-jets are introduced into the flow-lines and fluid streams themselves as a further precautionary measure." This is not true and it cannot be true, either, because such an internal steam-jet might cause emulsion, and in case anything was wrong with one of the valves after the flowbean, the well pressure might try to find its way into the steam-line, which would certainly cause trouble.

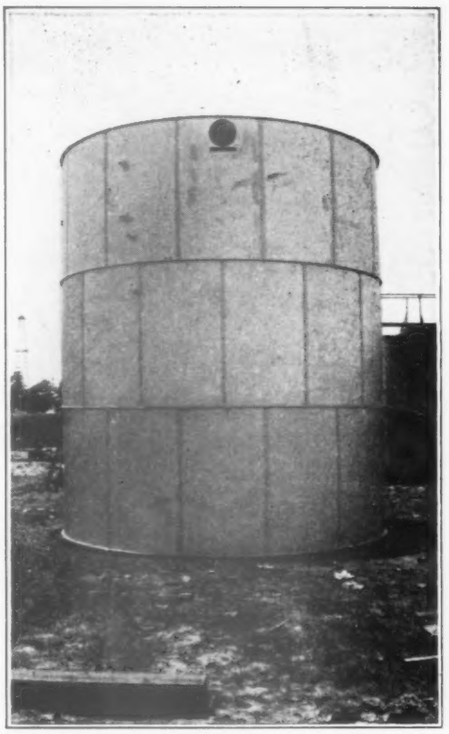
J. L. CHAILLET
"....a double-Dutch Hollander"

The second point is: Your most obedient servant is not a Frenchman, but a double Dutch Hollander, born and raised in Holland, but since then beating about this funny old globe of a world.

From the papers I see that you still have several thousands of miles to travel before you see back home.

I sincerely hope that we readers see

1500-Bbl. High Type Maloney, 10-gauge throughout, on Rio Bravo Oil Co. lease, erected by Peer Bolted Steel Tank Co., distributer, Houston district.



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R. H. Fash, B. S., Vice-President
828½ Monroe St. Ft. Worth, Tex

LETTERS

your trip through your eyes as well as that you return in best health and safety.

With cordial thanks and a shake-hands.

Sincerely yours,
J. L. CHAILLET,
Field Superintendent, Astra-Romana.
Moreni, Roumania.

We take the liberty of apologizing to Mr. Chaillet for the two errors made by Mr. Leigh in his article to which reference is made, although Mr. Leigh is at present "somewhere East of Suez," and probably will not see this until he finds a copy of this issue in the hands of an oil field executive in India or the Dutch East Indies. Probably it will be a Hollander who will help him learn that his good friend in Roumania is not a Frenchman. And should they find at that meeting that Mr. Chaillet is known to both of them, which is probable, they probably will agree that oil field engineering genius really knows no nationality.—EDITOR.

Dear Sirs:

What was the largest oil well in the world?

What was the production of same when drilled?

In what country was it located?

If convenient give a list of a few of the largest wells, also location of same.

C. W. KUHLMAN,
Marvel Oil Company.
Calpet, Wyoming.

Probably the largest oil well in the world, from the viewpoint of total production, is Mexican Eagle Oil Company's Protrero El Llano 4, from which more than 115,000,000 barrels of oil have been actually marketed; and this does not take into consideration the oil lost when the well was completed in December, 1910, and ran wild for some time, or the oil lost shortly thereafter when the well was struck by lightning. Records on this well are a bit hazy, but assurances are given that the initial production was in excess of 100,000 barrels daily.

In high gravity territory in recent months the Oklahoma City field has had a number of large completions, but as in the case of the Yates field in West Texas, due to curtailment, exact data on well performances are not recorded.

Gott
Water Cans & Coolers
Gott
Built to last... you will always be assured of a fresh supply of pure water, when you have a GOTT Water Cooler. Order one now from your supply store.
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.
Gotkool
H. P. GOTT MFG. CO. · Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

McCollum Exploration Co.

Contracts taken for Seismograph Work

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Calvin Wheat Commercial Studio

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Preston 3949

T. A. BROWN,
Oil Field Specialties
Gumbo-Buster Rotary Equipment.
Cameron Blow-out Preventers.
Layne & Bowler Screen, Packers, Etc.
American Iron Works Fishing Tools.
Care of Amer. Consul, Maracaibo, Venez., S.A. and Port of Spain, Trinidad, B.W.I.

HEYDRICK'S NEW MAPS
WEST TEXAS

County Maps
Combination Maps
Descriptions and prices on application

HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Evangeline Iron Works, Ltd.

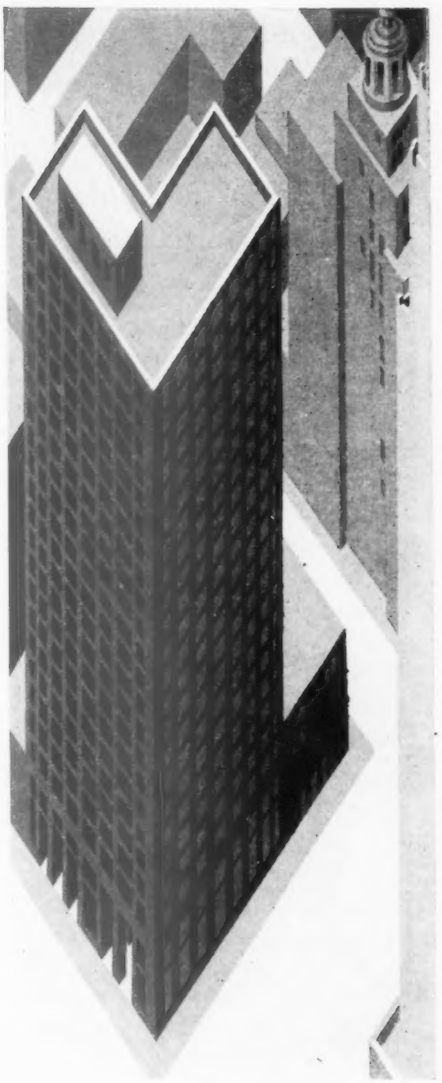
Oil Field Machine Shops

Office: Vinton, Louisiana
Shops at: Vinton, La., Orangefield, Texas

Specialists in Repairing Oil Field Equipment

E. I. W. Side-Track Milling Tools.
E. I. W. Screen Back Pressure Valves.
E. I. W. Well Seals and Packers.
E. I. W. Seal Setting Tools.

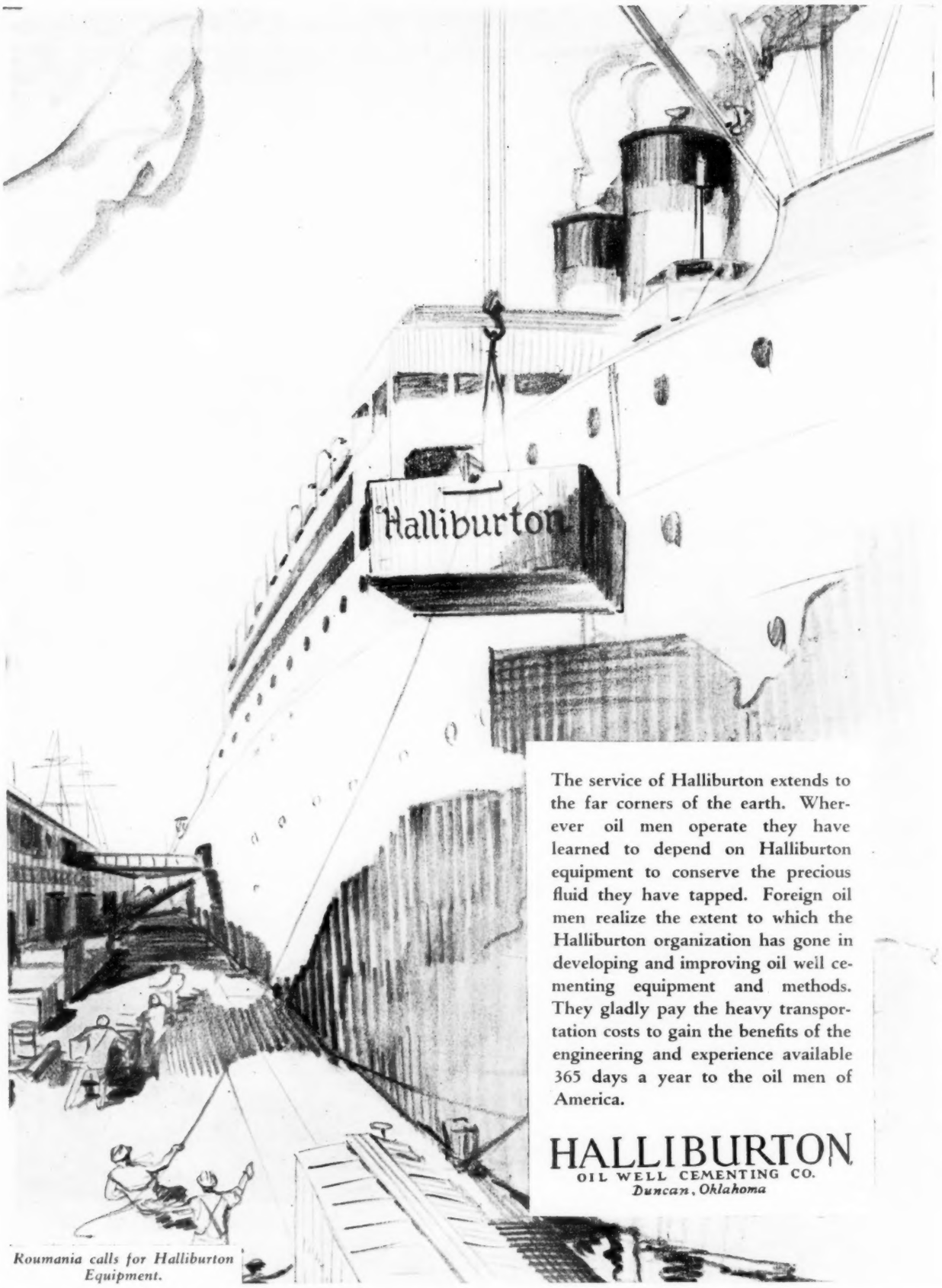
LASTING RELATIONSHIP IS BASED ON TRUST



YOUR TRUST IN US brought us together . . . in our first financial association . . . Continued association has strengthened that trust . . . You, your wife . . . your children . . . and your business associates . . . are entitled to a financial home . . . built upon the basis of trust . . . Upon this ideal we have builded . . . Your splendid response has added impetus to that building . . . So, today . . . we welcome you in enlarged quarters . . . at the *new* south entrance of the Second National Bank . . . Of these NEW FACILITIES we are justly proud . . . and more than ever do we feel a renewed sense of the obligation of your trust in us.

SECOND NATIONAL BANK

MAIN AT RUSK HOUSTON, TEXAS



Roumania calls for Halliburton Equipment.

The service of Halliburton extends to the far corners of the earth. Wherever oil men operate they have learned to depend on Halliburton equipment to conserve the precious fluid they have tapped. Foreign oil men realize the extent to which the Halliburton organization has gone in developing and improving oil well cementing equipment and methods. They gladly pay the heavy transportation costs to gain the benefits of the engineering and experience available 365 days a year to the oil men of America.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

Would you, as a reader of The Oil Weekly, like to receive copies of THE CEMENTER as issued? Each number contains interesting information about cementing and drilling fluids. There is no cost or obligation—simply sign your name below and mail to Halliburton Oil Well Cementing Co., Duncan, Oklahoma.

Name ..... Address .....

New Equipment for the Field

Machinery - Tools - Catalogs - Books

Steel Spring Recording Gauge

THE FOXBORO COMPANY

The Foxboro Company, Foxboro, Massachusetts, has perfected during the current year an alloy-steel helical spring movement for its recording gauges, which represents an advance in pressure gauge design. The new movement is of one-piece tubing, all steel and all welded. It is designed to combine maximum safety with high resistance to commonly encountered corrosive agents.

The steel spring gauges are built to allow uninterrupted service. During the past two years the company has placed these steel welded movements on high pressure work in central stations, casing and tubing work in the natural gas field, cracking units in refineries, various processes in air reduction plants and on processes. Tests have resulted in a finding of accuracy to within less than one per cent.

These alloy-steel movements are available with all new Foxboro recording gauges, or separately to be installed in old Foxboro gauges. The new movements are used on gas, water, steam, oil, air, brine, chemicals, etc., where pressures do not exceed 2000 pounds per square inch.

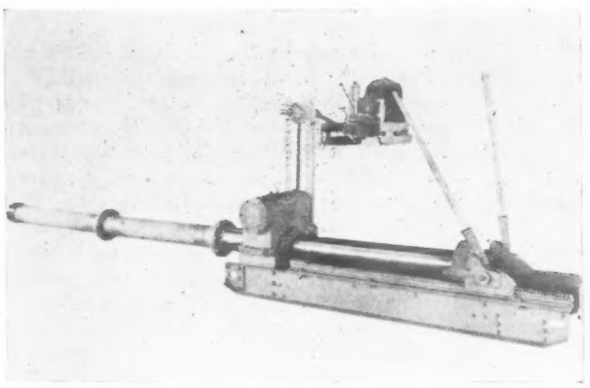
With the introduction of this new gauge movement The Foxboro Company has prepared Bulletin 168 which describes these gauge movements in detail. Copies may be had by writing to the Neponset Avenue, Foxboro, Massachusetts, office.

Road Boring Machine

YOUNG ENGINE CORPORATION

Young Engine Corporation, Canton, Ohio, announces a horizontal road boring machine for service in laying gas, oil or water lines and conduits under railroad tracks. The casing or line is forced under the road grade without disturbing the surface, whether it be three or 18-inch line. Gasoline engine, electric, tractor or other powers may be used on such a job with this machine.

The machine is set in the ditch. If space permits, the machine is set back a distance from the face of the embankment equal to the distance or the amount of pipe that is to be installed under the grade. The amount of pipe to be run is welded and on the front end is placed a proper cutter-head, similar to a rotary shoe. On the end next to the machine is placed a swedge nipple, reducing or increasing the pipe or casing to fit the eight-inch by 15-inch forged steel flange. The machine is then braced to prevent sliding backward, and the cutter is forced in by the jacks as illustrated. Then, as the pipe progresses through the grade, extension joints of 5½-foot pipe are added. After the pipe or casing has been run through the grade the cutter-head is cut off with a torch, or unscrewed from the casing.

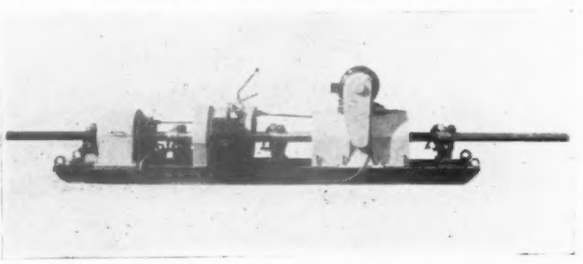


Young Road Boring Machine

On small lines solid ends are used on the pipe, but on large lines the pipe is left open and the cuttings removed either by water (in cases where it can be drained from the ditch) or by a long handle spoon.

The driving shaft is adjustable for height so that the power unit may be set upon the bank with the boring machine down in the ditch. The power unit shown here has three speeds forward and one in reverse.

Complete information on this new machine will be supplied upon request to the manufacturers at Canton, Ohio.



W-K-M Pipe Cleaning Machine

Pipe Cleaning and Priming Machine

W-K-M COMPANY

W-K-M Company, Inc., Houston announces the production of a new pipe-cleaning (descaling and priming) machine designed for use on gas and oil pipe one-half-inch to four inches in diameter. The 0-4 unit, first machine for small-size pipe the company has built, now completes the company's plan of offering a group of machines, for service or for sale, which can handle any size of pipe from ½-inch to 24 inches. W-K-M pipe cleaning and priming machines for large size pipe have been on the market for five years; the current new model is for use on small pipe.

Mill-type in design, with a heavy base frame of structural steel, the machine, which is electrically-driven, cleans, brushes and primes seriatim in one automatic operation. The operating unit consists of cleaning head which rotates around the pipe at 500 R.P.M. The head contains 12 spindles, each having 30 cutters, which strike approximately 9,000,000 chipping blows on the surface of four-inch pipe per minute. Following this, the pipe runs through a brush head which is of planetary type, each brush revolving on its own spindle at the rate of 1500 R.P.M. The head itself containing the brushes rotates around the pipe at 150 R.P.M., thoroughly brushing every square inch of area. A priming coat of paint is then applied by first pumping paint constantly on to the outside of the pipe. This primer is scrubbed into the roughened cleaned surface of the pipe by revolving wire bristle brushes, the surplus paint dropping back into the paint tank below. The scrubbing of the

primer is followed by smoothing off any drops with Tampico fiber brushes, leaving the surface of the pipe covered with a thin, adhering coat of paint.

The unit is adjustable to accommodate any size of pipe up to and including four inches in diameter. In designing the machine the manufacturers gave much thought to the ease and speed with which one man could make the change-over from one size adjustment to another. In less than 15 minutes one man can change the machine to handle from one size of pipe to any other size of its capacity.

Equipped with four speeds forward and one reverse, all working parts enclosed and running in oil, the machine offers a maximum production speed of 25 feet per minute of pipe. With the addition of another cutter head the capacity is increased 50 feet per minute; likewise, with a third cutter head, 75 feet per minute.

Full information can be obtained by writing W-K-M Company, Inc., 220 Roberts Street, Houston.

Lebus Rathole Elevator

Rat Hole Elevator

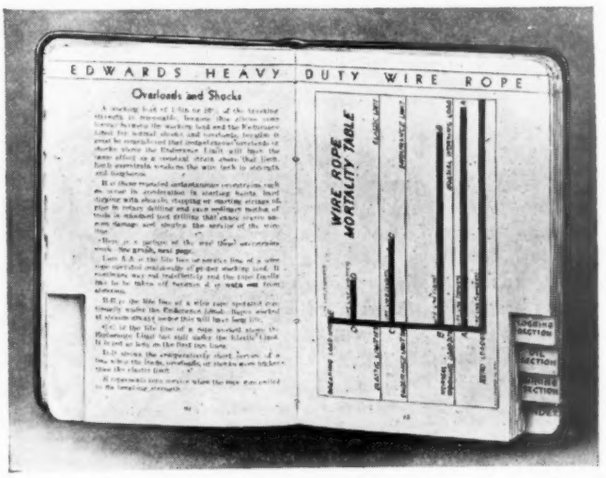
GENERAL SUPPLY COMPANY

General Supply Company, 317 Merchants and Manufacturers building, Houston, is introducing a rat hole elevator, which is constructed with a hand hole to guide after picking the grey hound out of the "V" and putting it in the rat hole to make the swivel connections.

There is a ring on the latch through which a hook on the catline fits, and, when slack is taken up on the catline, locks the jaws. This supplants the method of using the big elevators or tying the catline around the grey hound. This elevator is of steel construction, and is made in sizes of from three-inch to six-inch.

The new elevator will be more completely described upon request to the distributors or to the manufacturers, Lebus Rotary Tool Company, Electra, Texas.

A. E. Anderson, general manager, Standard Day-A-Nite Company, Houston, recently completed a field trip through the lower Mid-Continent territory, including Dallas, Ft. Worth, Seminole, Oklahoma City, Hobbs and San Angelo, making arrangements for distribution of Danco high pressure fittings.



Sample pages in The E. H. Edwards Company's wire rope handbook

The E. H. Edwards Company, manufacturers of wire rope in San Francisco, has just completed a pocket-size 192-page wire rope handbook, prepared from the practical angle of everyday questions that wire rope users ask. In addition to the standard information on construction, size, breaking strength, list price, etc., this handy reference book contains much valuable data on the use of wire rope in the field. This information is conveniently divided and indexed into sections such as: "Logging," "Oil Field," "Mining," etc.

An unusual feature of the book is the showing of actual photographs of worn rope. The causes of break, wear or "burning," and methods for the prevention of such costly conditions are concisely discussed.

The book is round-cornered and firmly bound with a black cloth cover to withstand long usage in the field.

Southwest Texas Map

HARRY L. FRAZIER

Harry L. Fansler, Laredo, Texas, who maintains complete map service and developent records and statistics of the Laredo district oil and gas fields, now has a new map of Zapata County, scale 2000 varas to the inch, showing all land ownerships, wells and other details, the price per copy being $5 on paper and $7.50 on cloth.

He is also preparing a map of the same kind and same scale of Duval County, and it will be completed shortly.

Other new maps recently compiled by Mr. Fansler include one of the new S. R. C.-Vacuum pool in northwestern Duval County, scale 1600 feet to the inch, selling for $3 for paper copies and $5 for cloth copies. On the same scale and at the same prices he has a new map of the Muckelroy pool, and another map of current interest is that of the new National Oil Company area in Zapata County.

Another service which Mr. Fansler offers is a weekly scout report covering all field activity in the various counties comprising the Laredo district. It is issued every Thursday, and the price is $10 per month. Pipe line reports covering all companies with connections in the district are issued monthly at a price of $1 per company.

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE—LUBRICATING OILS
NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

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New York Boston Philadelphia Louisville Atlanta Houston New Orleans

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Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Manufacturers and Supply Dealers Notes

Smith Separator Company of Tulsa has been named distributor in the Mid-Continent for the Dillon multi-seal couplings manufactured by Dillon Company of Tulsa. Smith Separator Company maintains branches at Oklahoma City and Seminole, Oklahoma; Hobbs, New Mexico; Wichita, Kansas, and Houston, Fort Worth, Pampa and Midland, in Texas. Dillon couplings may be obtained through any of these branches. They are manufactured in varying sizes to meet field requirements, including both drop forged and malleable. Sizes in the drop forged are for couplings for two-inch, four-inch, six-inch and eight-inch, and for malleable range all the way from two, 2½ to 20-inch. Dillon couplings are for any service, whether vacuum or pressure, and are in use on some of the major pipe line projects now under construction.

Templeton, Kenly & Company, manufacturers of Simplex Jacks, has prepared for its distributors a poster stamp carrying the slogan, "The Foundation of Economical Service is the Distributor." This poster slogan is being used to emphasize the distributors' service facilities.

Pittsburgh Equitable Meter Company has issued two new catalogs giving complete information about EMCO balanced valve regulators and the new Emcorector. Anyone in the gas industry desiring a copy of either or both of them should direct his request to the company at 400 North Lexington Avenue, Pittsburgh.

Public Service Company of Tulsa has issued an illustrated brochure on the application of electric power to the oil industry covering a variety of uses and also dealing in detail with actual field installations under operating conditions.

Hamer Oil Tool Company, Ltd., Long Beach, California, has published a 24-page booklet on Hamer slush pump appliances and oil well specialties. Featured with description and illustration is the Hamer all-steel rotary hose, the Hamer "Noblindo" pressure seal stop cocks, and manifold type pressure seal stop cocks, Hamer pressure slush pump pistons and liner rings, the Hamer mud-pump valves, the Hamer casing centralizer, Hamer imperial oil saver and Hamer hose clamp. This booklet is available by writing Hamer Oil Tool Company, 2911 Cherry Avenue, Long Beach, or to The Thrift Corporation, 953 M. & M. Building, Houston, distributors of Hamer products.

J. H. Williams & Co., Buffalo, New York, manufacturers of drop-forgings and drop-forged tools, has closed contracts for an addition to its Buffalo plant. The extension will provide for an increase of approximately 30,000 square feet of floor space, to be used for additional heat-treating facilities and also for finishing, assembling and storing the company's standard stock products.

This company has recently introduced a complete new line of detachable socket wrenches.

Link-Belt Company's book Number 1259, which has been developed on the subject "Keeping Pace With the Oil Industry," is an eight-page illustrated booklet telling the story of Link-Belt Company products, and showing in pictures and detailed description the uses of numerous Link-Belt products. A copy is available upon request to 300 West Pershing Road, Chicago, or to any branch office.

Landis Machine Company's leaflet descriptive of the Landis automatic forming and threading machine contains complete details of the various units of the machine. A copy will be sent upon request to the main office, Waynesboro, Pennsylvania.

H. B. Owens

Caterpillar Tractor Company has made H. B. Owens, who for the past 15 years has been in the producing branch of the oil and gas business, supervisor of industrial sales. His past connections include service with C. F. Camp Company, H. W. Cardwell Company and Empire Oil & Refining Company. In his present position his services will be available to "Caterpillar" dealers everywhere industrial problems are confronted, but particularly in oil field and pipe line developments.

Oil men, drilling contractors, supply men and others from many parts of Oklahoma and the Mid-Continent field came together at the Twin Hills Country Club at Oklahoma City November 4 as guests of Brauer Machine & Supply Company and Star Manufacturing Company, both of Oklahoma City.

The occasion was the second annual banquet of the "Greasy Spoon" boarding house, begun last year by the Brauer organization and now established as an annual feature because of its popularity. Pat Brauer and Guy Danielson of Brauer Machine & Supply Company, and D. H. Rowland of Star Manufacturing Company had general supervision over arrangements and Roy Williams of Ponca City, Oklahoma, was master of ceremonies.

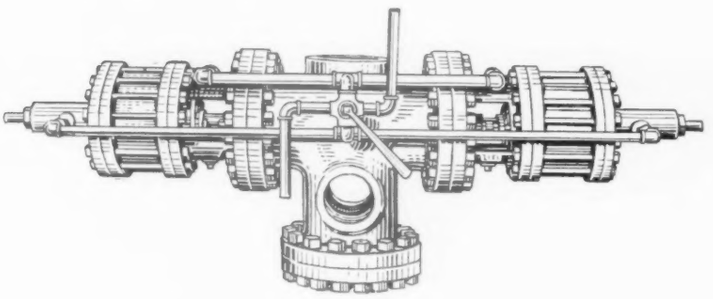
Those who were in attendance or to whom invitations were sent included D. D. Wertzberger and Grover Simpson of Tulsa, W. P. Sutton of Oklahoma, George McCamey of Fort Worth, K. Winship and B. F. Bridges of Tulsa, R. J. Fleckstein of Fort Worth, Edgar H. Wilson of Los Angeles, J. S. Williams of Oklahoma City, Earl Ives of Bartlesville, H. L. Blackstock of Oklahoma City, Clyde Conover of Seminole, E. J. Nichlos of Ponca City, Clyde DeVerse and Charles Stout of Oklahoma City, Tobe Edmondson of Oklahoma City, C. J. Halloran of Tulsa, I. G. Watkins of Oklahoma City, H. J. Marlang of Tulsa, C. C. Carter of Houston, R. W. Gordon of Tulsa, Roy Bettis of Houston, Dal Ligon and C. S. Miller of Fort Worth, Lee Brown of Oklahoma City and G. A. Manahan of Tulsa.

Also W. I. Southern and S. C. Thurmond of Tulsa, Roy and Homer Mead of Tulsa, Cal J. Hobson and Paul Nagle of Oklahoma City, H. O. Helvie, M. O. Stout and H. E. Disler of Tulsa, Tom B. Reed of Oklahoma City, W. B. Isaacks of Houston, J. A. Wood of Wichita, Kansas, and Steve J. Anderson, F. C. Letner, J. M. Kessler, J. C. Dinger, L. C. Hawkins and J. E. Dinger, all of Oklahoma City.

A number of others from points outside the state who were unable to attend sent telegrams of regret and well wishes for the banquet.

World-Wide

Recognition



The unassailable superiority of Cameron Blowout Preventers, is recognized around the world. In every high pressure field of the earth Cameron Blowout Preventers are guarding against the disasterous loss occasioned by blowouts. Substantiating this is the record of NO FAILURES. Not a single Preventer has ever failed to hold against the strongest pressures ever encountered in drilling.

Such leadership is not luck. It is the result of a superior product performing in such a manner as to win the respect and favor of those who have huge investments in equipment and production at stake. The oil industry knows the value of the famous Cameron "STEEL AROUND STEEL GRIP"; instantaneous closing and remote control. They appreciate the fact that Cameron preventers are always ready to function. No special devices to put in place or favorable conditions to create before closing in a high pressure well.

When the steel rams lock around the drill stem or casing the well is *closed in*. Length of drill stem in hole, weight of mud or strength of Pressure are NOT factors in the safe, sure, and positive operation of Cameron Blowout Preventers.

SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

See pages 92, 93 and 94 of the 1930 Issue . . . Stocks in all active high Pressure territories.

CAMERON IRON WORKS

HOUSTON
TEXAS

SQUEAKS FROM THE BULL WHEEL

"One of my ancestors won a battle during the Crusaders by his skill in handling artillery," said the baron.

"But my dear baron," said his friend, "at the time of the Crusaders, gunpowder had not been discovered."

"I know that as well as you do, and so did my ancester."

"How did he win the battle, then?"

"He brought the artillery to bear on the Saracens; and they, seeing the guns, supposed that powder had at last been invented, and fled in dismay."

An official of the telephone company was aroused at 2 o'clock in the morning by the ringing of the phone. After hitting his elbow, he finally reached the phone, and angrily answered: "Hello."

Other Party—"Are you an official of the telephone company?"

Official—"Yes, what can I do for you?"

Other Party—"Well, tell me how it is to get up at 2 o'clock in the morning and answer the wrong number."

"Your silver wedding anniversary, is it? Congratulations, old boy?"

"Yes, that's the first 25 years of it over."

Wife—George, dear how did those empty bottles get in the cellar?

Husband—I don't know. I never bought an empty bottle in my life.

Foreman—Well, everything is all right?

Night Watchman—Yes, I haven't done so bad for the first night. I've checked off everything, and there's only one thing missing—the steam roller.

"Thanks very much," said the vicar, as little Tommy handed up his offering for the harvest festival; "I must call round this afternoon and thank your mother for these eight beautiful apples."

"P-please, sir," stammered Tommy, "would you m-mind thanking her for t-twelve apples?"

Mother (indolently)—"Willie, you've been a naughty boy. Go to the vibrator and give yourself a good shaking."

"I want to pay cash for this car."

"Yes, sir, but this request is so unusual that I am afraid you will have to give references."

A Scotchman visiting America was asked what he thought of prohibition.

"Weel," he said cautiously, "It's better than no liquor at all."

"I tell you I won't have this room," protested the old lady to the bell boy. "I ain't goin' to pay my good money for a pigsty with a measly little foldin' bed in it. You think jest because I'm from the country—"

Disgusted, the boy cut her short. "Get in, mum. Get in. This ain't your room. This is the elevator."

"Annie Haskins just got back from New York. She says she had her eyebrows plucked."

"Ain't them city crooks smart? Think of swiping a thing like that."—Bethke Letter News.

"Is this beef or is it mutton, waiter?"

"Can't you tell by the taste?"

"No."

"Then what difference does it make?"

"Dad, give me a dime."

"Not today, sonny, not today."

"Dad, if you'll give me a dime, I'll tell you what the iceman said to mamma this morning."

"Here, son, quick; what did he say?"

"He said, 'Lady, how much ice do you want this morning?'"

"So your only defense is that you were drunk when you kissed this lady. How can you prove that?"

"Well, just take a good look at her yourself, Judge."

"You have been acquitted of the charge of bigamy and are quite free to go home."

"To which one, your honor?"

McAndrew—"Hooray! The wind has changed."

Convalescent Wife—"Well, mon, what of it?"

McAndrew—"Ye ken the doctor said ye needed a change of air."

Determined Woman—"Have you a good automatic?"

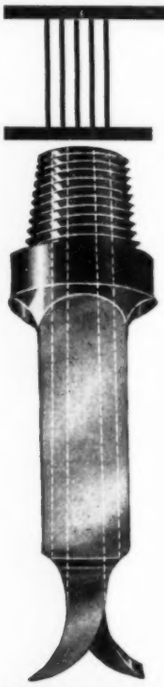
Hardware Dealer—"Yes, here is one that will shoot nine times."

Determined Woman—"What do you think I married? A tom cat?"

Midnight came and "Wow, Wow, Wow," and another "Wow" came from the baby.

"Four bawls and I walk," groaned the baseball-player daddy, as he slid out of bed.

APPLEMAN GUMBO BITS



You'll Cut Costs With This Bit

Because . . . .

Choking-up is obviated, water courses leading directly to the cutting edge assure the quick washing away of all cuttings in solution.

The blades are self-sharpening, achieved by concave formation and hard facing permitting wear on the back of the blade to retain the cutting edges.

The APPLEMAN GUMBO BIT holds gauge longer and cuts the sidewall as it drills. This accomplishes a full round hole and a well prepared sidewall.

Use the APPLEMAN BIT on your next well.

B. K. APPLEMAN
BEAUMONT, TEXAS

Martin trailers fit any truck up to five tons. Made with the same superior materials and workmanship as Martin wagons . . . and, like them, the result of seventeen years of manufacturing experience.

MARTIN WAGON CO.
LUFKIN, TEXAS

Do the Job *Right*.. Use a MARTIN

Let a Martin wagon solve your hauling problems. Heavy loads and rough roads hold no terrors for a Martin. No job is too big. A Martin always comes through.

Only the best grade of oak and hickory, thoroughly seasoned and tested, is used in their construction . . . *reinforced with steel.* Seventeen years of manufacturing experience go into every wagon bearing the Martin name. A patented adjustment on tongue and coupling allows you to carry heavier loads with less power. This, together with a Martin's easy-turning qualities, means quicker and more efficient hauling.

The next time you need a strong, sturdy wagon that you can depend on to do the job *right*—get a Martin.

"MARTINS HAUL ANYTHING"

INTERNATIONALLY FAMOUS

ALEXANDRIA HOTEL

IT COSTS NO MORE TO STOP AT THE DISTINCTIVE WORLD-FAMOUS ALEXANDRIA THAN AT THE AVERAGE HOTEL

RATES
Single with bath $3 to $8
Double with bath $4 to $10
ATTRACTIVE WEEKLY-MONTHLY AND RESIDENTIAL RATES

CORNER FIFTH & SPRING STREETS

THE VERY CENTRE OF THINGS

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for DEPENDABLE QUALITY
. . . PLUS IMMEDIATE SHIPMENT

Regardless of your tube needs—you will find us able to serve you in a dependable and economical manner. Immediate shipment can be made from a warehouse located in your near vicinity.

Boiler Tubes made of

COP-R-LOY
ARMCO INGOT IRON
O. H. STEEL

Today—write us about your standard or special requirements.

THE TYLER TUBE & PIPE CO.
Washington, Pa.

Warehouse Stock at
Harrisburg Pipe and Pipe Bending Co., Houston, Texas
Harrisburg Supply Company, Tulsa, Oklahoma
A. M. Castle & Co., Chicago; Seattle, Washington; San Francisco, California; Los Angeles, California
Lukens Steel Company, New Orleans, Louisiana

BOILER TUBES

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This is one of the "Trifles" that make "Perfection"

The SAFETY VALVE of the B.S.&B. Perfection Vapor Pressure TANKS

Were it not for the safety valve on a boiler, it would blow up, after a certain pressure is reached.

The B. S. & B. Thief Hole Pressure Vacuum Valve is the safety valve on the B. S. & B. Vapor Pressure Tank.

In order to retain the light fractions of the crude, these tanks are made *vapor pressure tight.* Should there be a sudden influx of fresh oil in the tank, or the sun unusually hot, and other than the ordinary amount of pressure be created, the excess pressure must be allowed to escape. Otherwise the tank would bulge and leak.

Likewise when the tank is drained, or cools off after the hot summer's sun, there is created a vacuum, and if the vacuum exceeds the normal amount, there must be relief, or the tank would collapse.

This valve works automatically at 16 ounces pressure and 2 ounces vacuum. It, therefore, protects the tank, as the tank protects the crude.

Look into this valve—look into this tank—look into our proposition. Heed what our representative says—read our literature. Address Dept. A39.

Black Sivalls & Bryson INC.

BARTLESVILLE ~ OKLAHOMA

(C) BSB 1930

This Great California Well

Successfully controlled by

HUGHES VALVES

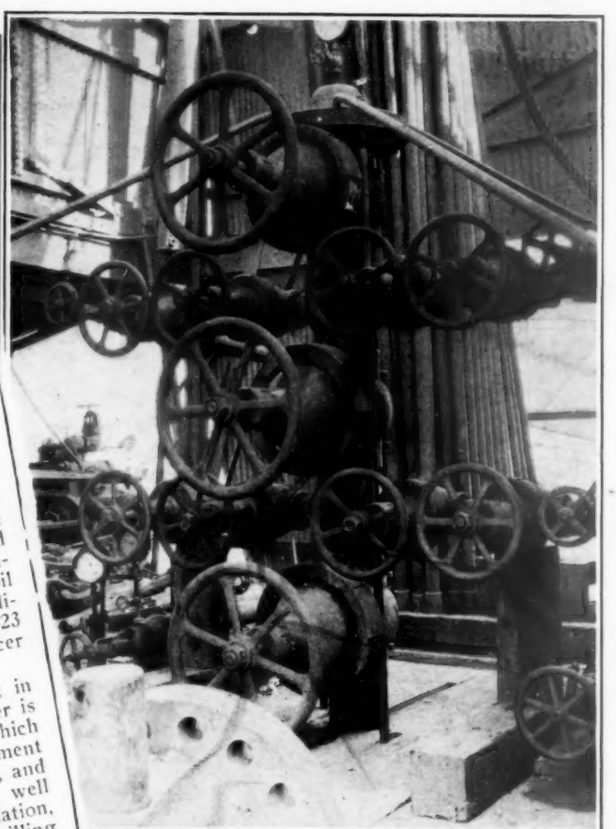
THURSDAY, OCTOBER 30, 1930

Huffman 1 Holds To 13,000 Daily

KETTLEMAN HILLS, Oct. 29.—Superior Oil Co.'s Huffman No. 1, the northwest outpost of the North Dome, Kettleman Hills, continues to increase its production, and early this week was reported making close to 13,000 bbls. of oil and approximately 80,000,000 c.f. of wet gas daily. This is an increase of more than 3000 bbls. of oil since the initial gauge was made some weeks ago. It is interesting to note that a corresponding decrease has been made in the gas output, which indicates that a more satisfactory gas-oil ratio has been established. That the Huffman well could easily increase its yield if the beans were opened is readily admitted, and without doubt is the largest potential producer of high gravity oil ever brought on production in California. Depth of the well is 8323 ft., making it the deepest producer in the state.

Not the least interesting fact in connection with this huge gusher is the complete control under which it has been held from the moment it first spouted a film of spray, and the mechanical work on the well deserves the highest commendation, for no time was lost in the drilling because of fishing jobs or other hindrances.

According to Superior plans, the newly completed absorption plant was to be in operation Wednesday (today), and this will take care of the wet gas. This unit has a daily capacity of 150,000 gallons of natural casinghead gasoline which will be taken by The Texas Co., while Union Oil Co. has the contract for the Huffman oil.



The above photograph shows the Christmas Tree hook-up on this outstanding California well. Valves shown are: three 8″ 6000-lb. test Hughes manifold valves and eight 4″ 6000-lb. test Hughes manifold valves. The well has been under complete control from the moment it first spouted a film of spray.

HUGHES TOOL CO.

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"Hughes Tools Sold by Supply Stores Everywhere"